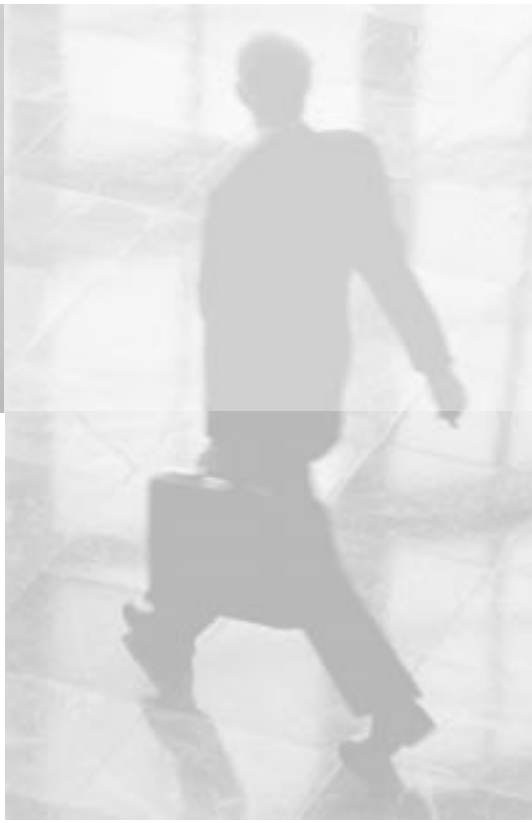
Compaq Armada E700 Series of Personal Computers

Reference Guide



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REFERENCE GUIDE

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preface

USING THIS GUIDE

Some or all of the following format conventions are used in this guide to distinguish elements of text:

- Names of keys are shown in bold type as they appear on the keyboard, for example, **Ctrl, Backspace, Tab.**
- Keys that you should press at the same time are represented by the key names and the plus (+) symbol, for example, **Ctrl+Alt+Delete.**
- Commands are presented in lowercase, bold type as shown here: **install** or **a:\install.**
- An arrow symbol is used to separate icons or menu options that you should select in succession; for example, select Start→Settings→Control Panel.
- When you need to type information without pressing the **Enter** key, you are directed to "type" the information.
- When you need to type information *and* press the **Enter** key, you are directed to "enter" the information.

NOTE: Text set off in this manner presents commentary, sidelights, or interesting points of information.

IMPORTANT: Text set off in this manner presents clarifying information or specific instructions.

WARNING: Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of work.

chapter 1

GETTING STARTED

Finding Assistance

- For setup instructions, refer to the setup poster included with the computer.
- To access the online quick reference guide for the computer
  - Select the Armada Quick Reference icon on the desktop

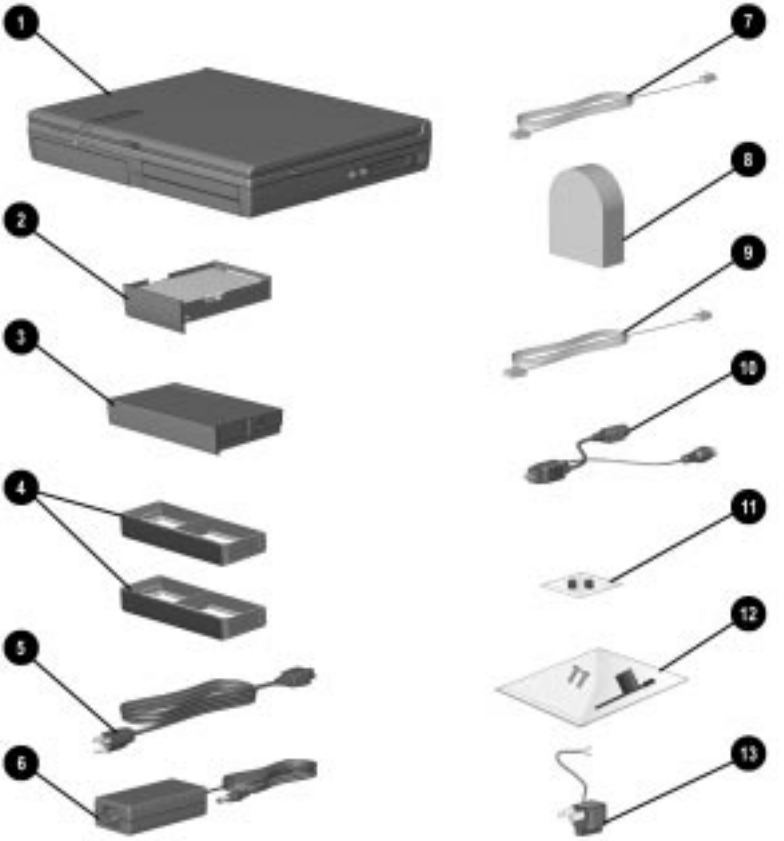
    or
  - Select Start→Compaq Information Center→*Armada Quick Reference.*
- To access additional information about the computer
  - Select Start→Compaq Information Center.
  - Go to the Compaq Internet site at http://www.compaq.com.
- To contact Compaq customer support, refer to Appendix A in this guide.

Identifying Packing Box Contents

The contents of the packing box vary by geographic region and the computer hardware configuration ordered.

The following illustration and component list identify the standard components included with most computer models.

As you unpack the box, make sure you have received all the standard and optional components you ordered.



Identifying Hardware Components

Component	Function
❶ Computer	Compaq Armada E700 Personal Computer.
❷ Hard drive (inserted in computer hard drive bay)	Primary hard drive when used in hard drive bay. Can also be used, with an adapter, in the Dual MultiBay.
❸ Battery pack (inserted in computer battery bay)	Primary battery pack. **NOTE:** The battery pack can be charged and used as shipped, but battery charge displays will not be accurate until the battery pack is calibrated.

Continued

Identifying Hardware Components *Continued*

Component	Function
❹ Weight savers (2)	■ Protect an empty MultiBay. ■ Can replace a MultiBay device to reduce computer weight. **NOTE:** A weight saver can be inserted or removed while the computer is on, off, in Hibernation, or in Suspend.*
❺ Power cord	■ Internal adapter models: connects computer to AC electrical outlet. ■ External adapter models: connects AC Adapter to AC electrical outlet.
❻ AC Adapter (external AC Adapter models only)	Converts AC power to DC power.
❼ Modem cable (internal modem models only)	Connects modem to RJ-11 telephone jack or to a country-specific adapter.
❽ Country-specific modem adapter (provided with internal modem models by region as required)	Adapts modem cable to non-RJ-11 telephone jacks.
❾ Network cable (network models only)	Connects computer to an Ethernet network jack.
❿ Video-out adapter	Adapts video-out jack to S-video and composite video devices.
⓫ Bag containing two spare pointing stick caps (EasyPoint IV pointing-stick models only)	To replace a worn pointing stick cap: 1. Turn off the computer. 2. Gently pull off the used rubber pointing stick cap, then push the replacement cap into place.
⓬ Security kit containing ■ Torx T-10 memory security screws (2) ■ Torx T-10 screwdriver to use with memory security screws	The screws are tamper-resistant replacement screws for the memory expansion compartment cover. ■ If the computer shipped with an empty memory expansion compartment, the cover is secured with a standard screw. ■ If the computer shipped with a factory-installed memory expansion board, the cover is secured with a Torx T-10 memory security screw.
⓭ 3-to-2-prong plug adapter (Japan only)	Adapts the power cord to a 2-prong electrical outlet.

*In Windows 98 the term *Standby* replaces the term *Suspend.*

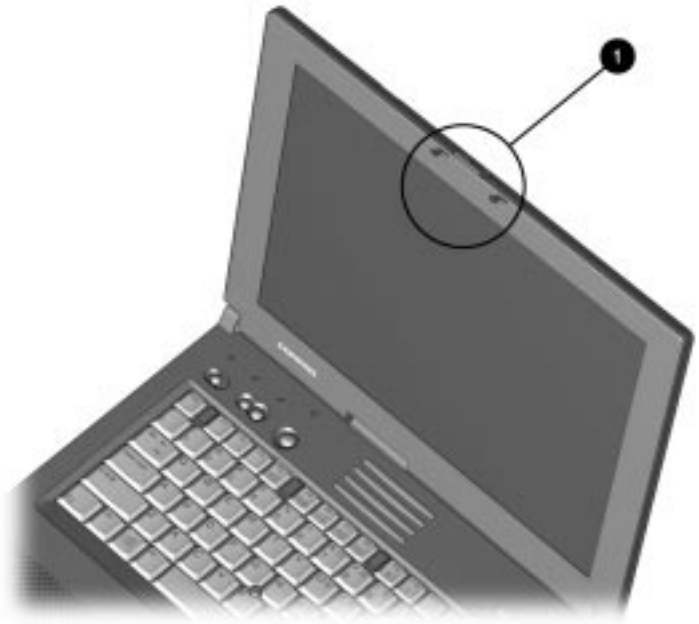
WARNING: To reduce the risk of personal injury, electric shock, fire, or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect power from the equipment by unplugging the power cord from the electrical outlet.
- Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

chapter 2

TAKING A LOOK AT THE COMPUTER

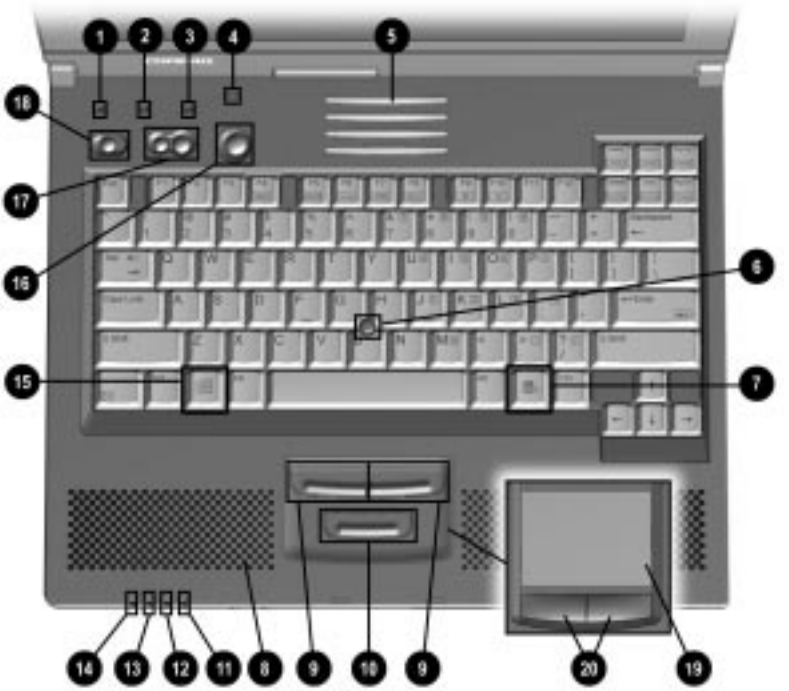
Display Component



Display Component

Component	Function
❶ Display release latch	Opens the computer.

Top Components



Top Components

Component	Function
❶ Num lock light	On: Num lock is on and the embedded numeric keypad is enabled.
❷ Scroll lock light	On: Scroll lock is on.
❸ Caps lock light	On: Caps lock is on.
❹ Display switch	Turns off the computer display if the computer is closed while on.
❺ Vents	Allow airflow to cool internal components.
❻ Pointing stick	Moves the pointer.
❼ Windows application key	Displays shortcut menu for item beneath pointer.
❽ Stereo speakers (2)	Produce stereo sound.

Continued

Top Components *Continued*

Component	Function
❾ Left and right pointing-stick buttons (pointing-stick models only)	Function like the left and right buttons on an external mouse.
❿ Scroll pointing-stick button (pointing-stick models only)	Can be set to scroll, magnify, or function like the scroll button on an external mouse.
⓫ MultiBay light	On: A drive in a MultiBay is being accessed.
⓬ Hard drive light	On: The primary hard drive is being accessed.
⓭ Power/suspend light	On: Power is turned on. Off: Power is turned off. Blinking: Computer is in Suspend.* **NOTE:** The power/suspend light also blinks if a battery pack that is the only available power source reaches a critical low-battery condition while Hibernation is disabled.
⓮ Battery light	On: A battery pack is charging. Blinking: A battery pack that is the only available power source has reached a low-battery condition.
⓯ Microsoft logo key	Displays Windows Start menu.
⓰ Suspend button**	■ Turns on the computer if it is off. ■ Initiates and exits Suspend.* ■ When pressed with the **Fn** key, initiates Hibernation.
⓱ Volume buttons (2)	Adjust or mute system volume.
⓲ Power switch	Turns the computer on or off or exits Suspend.*
⓳ Touchpad (touchpad models only)	Moves the pointer, selects, and activates.
⓴ Left and right touchpad buttons (touchpad models only)	Function like the left and right buttons on an external mouse. Used with the touchpad, the left touchpad button drags and highlights.

*In Windows 98 the term *Standby* replaces the term *Suspend.*

**In Windows 98 the term *sleep button* replaces the term *suspend button.*

Left Side Components

Left Side Components

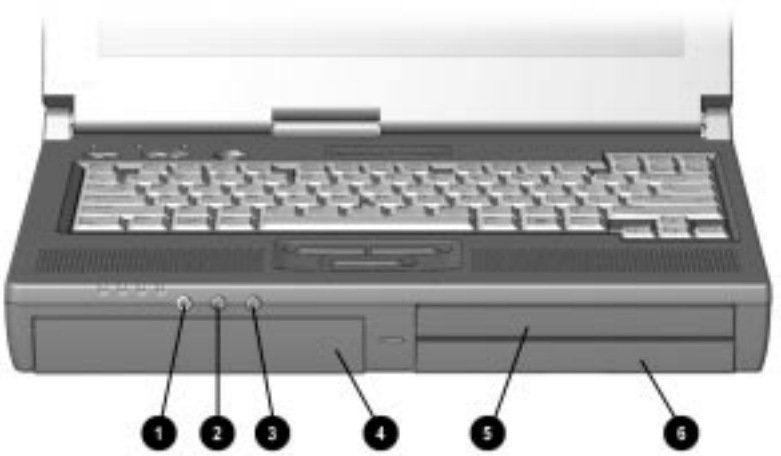
Component	Function
❶ Fan	Provides airflow to cool internal components.
❷ Video-out jack	Connects a television, VCR, camcorder, overhead projector, or video capture card. **NOTE:** The connection requires the use of the video-out adapter included with the computer and an optional video cable.
❸ Hard drive bay	Holds primary hard drive.
❹ Left acoustic port	Enhances bass sound.
❺ Security cable slot	Attaches an optional security cable to the computer.
❻ Microphone	Inputs single-channel sound to the computer; can be used whether the computer is open or closed.

Right Side Components

Right Side Components

Component	Function
❶ Right acoustic port	Enhances bass sound.
❷ RJ-45 jack (network models only)	Connects the network cable. **NOTE:** A network cable is included with network models.
❸ RJ-11 jack (internal modem models only)	Connects the modem cable to an internal modem. **NOTE:** A modem cable is included with internal modem models.
❹ PC Card slots (2)	Support 32-bit (CardBus) and 16-bit PC Cards.
❺ PC Card eject buttons (2)	Top button: Ejects a PC Card from the top PC Card slot. Bottom button: Ejects a PC Card from the bottom PC Card slot.

Front Panel Components

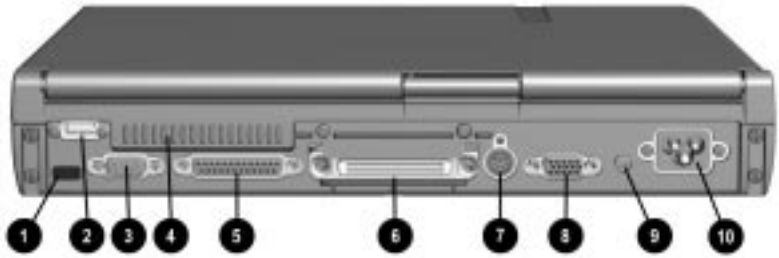


Front Components

Component	Function
❶ Microphone jack	Connects a single sound channel microphone.
❷ Stereo line-in jack	Connects a CD player, tuner, or tape deck.
❸ Stereo speaker/headphone jack	Connects stereo speakers, headphones, headset, or television audio.
❹ Battery bay	Holds the primary battery pack.
❺ Top MultiBay*	Supports a12.7-mm Armada drive other than a diskette drive.
❻ Bottom MultiBay*	Supports a 12.7-mm Armada drive or a MultiBay battery pack.

*The Dual MultiBay, which comprises both the top and bottom MultiBays, supports devices, such as a 17-mm Armada hard drive or a Dual-MultiBay battery pack, which fill both the top and bottom MultiBays.

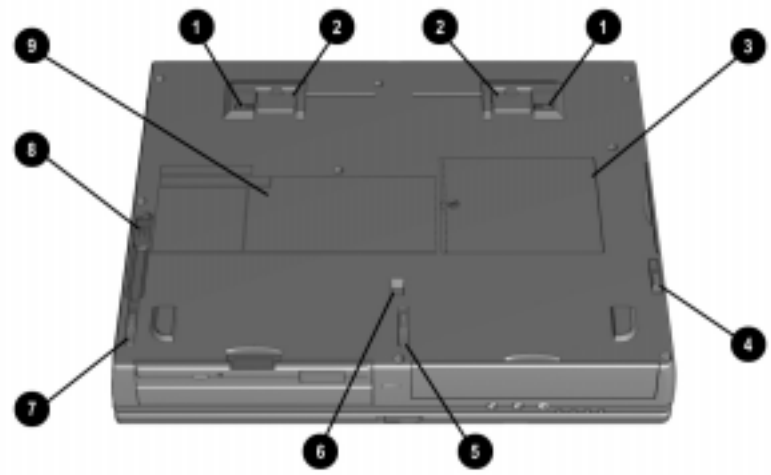
Rear Panel Components



Rear Panel Components

Component	Function
❶ Infrared port	Links another IrDA-compliant device for wireless communication.
❷ USB connector	Connects USB devices.
❸ Serial connector	Connects a serial device.
❹ Vents	Allow airflow to cool internal components.
❺ Parallel connector	Connects a parallel device.
❻ Docking connector	Connects the computer to a docking base.
❼ Keyboard/mouse connector	Connects an external keyboard or PS/2-compatible external mouse. **NOTE:** To connect a keyboard and a mouse at the same time, use an optional Y-adapter.
❽ External monitor connector	Connects an external monitor or overhead projector.
❾ DC power jack	Connects any one of the following: ■ AC Adapter (external adapter models only). ■ Optional Automobile Power Adapter/ Charger. ■ Optional Aircraft Power Adapter. ■ Optional DC cable.
❿ AC power connector	Connects the power cord.

Bottom Components



Bottom Components

Component	Function
❶ Tilt feet latches (2)	Release tilt feet. **Note:** To close tilt feet, press the feet against the bottom of the computer.
❷ Tilt feet (2)	Tilt the computer.
❸ Memory expansion compartment cover	Covers the memory expansion compartment, which contains two memory expansion slots for memory expansion boards.
❹ Hard drive release latch	Releases a hard drive from the hard drive bay.
❺ Battery release latch	Releases the primary battery pack from the battery bay.
❻ Docking restraint latch recess	Helps secure the computer to a docking base.
❼ Front MultiBay release latch	Releases a device from the bottom MultiBay or a device which fills both the top and bottom MultiBays.
❽ Rear MultiBay release latch	Releases a device from the top MultiBay.
❾ Serial number	Identifies computer; needed when you call Compaq customer support.

chapter 3

USING THE KEYBOARD

Using the Pointing Device

The pointing stick (pointing-stick models) and the touchpad (touchpad models) function with any software that supports a Microsoft-compatible mouse.

NOTE: For software that does not support a Microsoft-compatible mouse, open Computer Setup, select Advanced→Device Options, then select the Disable Multiple Pointing Devices checkbox.

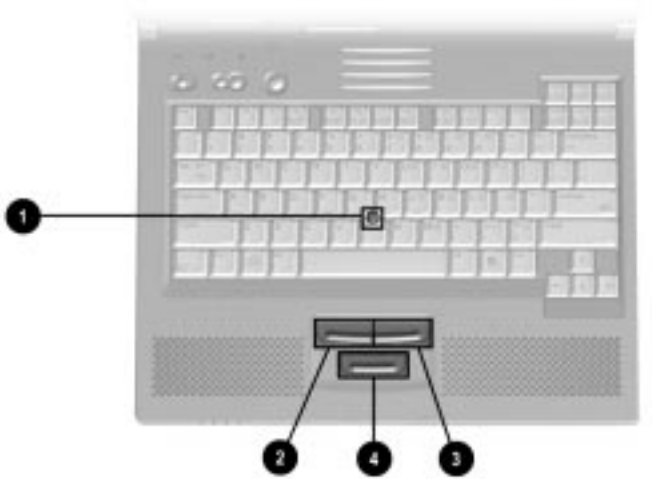
Identifying Keyboard Components (Pointing-Stick Models)

❶ Pointing stick

❷ Left pointing-stick button

❸ Right pointing-stick button

❹ Scroll pointing-stick button

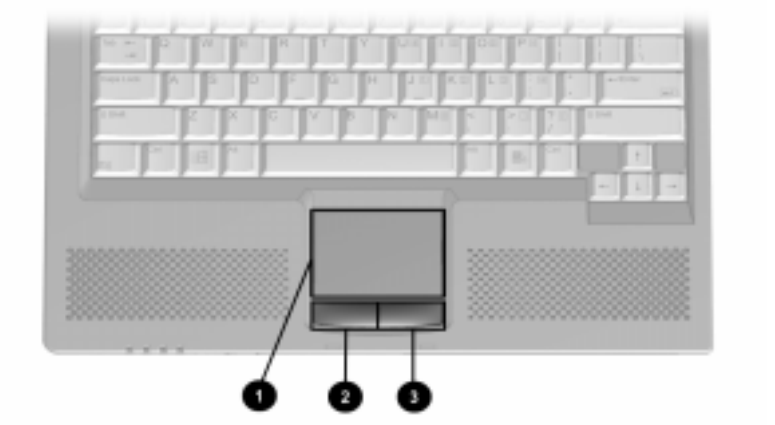


Identifying Keyboard Components (Touchpad Models)

❶ Touchpad

❷ Left touchpad button

❸ Right touchpad button



Navigating with the Pointing Device

Pointing Device Procedures

Task	Procedure
Move the pointer.	Pointing stick: Directionally press the pointing stick. Touchpad: Move your finger directionally across the touchpad surface.
Increase or decrease pointer speed as you move the pointer. To set a pointer speed preference, refer to "Setting Pointing Stick Preferences."	Pointing stick: Increase or decrease the pressure on the pointing stick. Touchpad: Increase or decrease finger speed across the touchpad surface.
Right-, left-, or scroll-click, or double-click.	Pointing stick: Press the right, left, or scroll pointing-stick button as you would the right, left, or scroll button on an external mouse. Touchpad: Press the right or left touchpad button as you would the right or left button on an external mouse.

Continued

Pointing Device Procedures *Continued*

Task	Procedure
Highlight an item.*	Position the pointer at the item to be highlighted. Quickly tap the pointing stick or touchpad once, then hold down on the pointing stick or touchpad as you move the pointer over the item.
Select text or an object.*	Position the pointer over the highlighted text or object, then quickly tap the pointing stick or touchpad once.
Activate a selection.*	Position the pointer over the selection, then quickly tap the pointing stick or touchpad twice. **NOTE:** To select and activate a preference, first tap the preference once to select it, then tap the preference twice to activate it.
Select, then drag and drop an item.*	Position the pointer over the highlighted text or object. Quickly tap the pointing stick or touchpad once, then hold down on the pointing stick or touchpad while dragging the item to the new location. To drop the item, release the pressure.

*To perform this task exactly as you would with an external mouse, use the left pointing device button like an external mouse left button.

Setting Pointing Device Preferences

- **Pointing-stick models**—
  - To access settings common to any Microsoft-compatible mouse, such as mouse trails, pointer speed, double-click pace, and Windows 98 single-click mode, select Start→ Settings→Control Panel→Mouse.
  - To access settings and instructions for using additional pointing-stick features, such as scrolling, magnifying, and selecting, select Start→Settings→Control Panel→ EasyPoint IV.
- **Touchpad models**—To access all touchpad features and settings, including mouse trails, pointer speed, double-click pace, and Windows 98 single-click mode, select Start→ Settings→ Control Panel→Mouse.

Using Hotkeys

Hotkeys are preset combinations of the **Fn** key ❶ plus a second key that access or execute frequently used system functions. The icons on the function keys **F1-F10** ❷ represent these functions.

- **To use hotkeys on an external keyboard,** which does not have an **Fn** key, press the **Scroll Lock** key twice, then the second key only of the hotkeys combination. For example, to use the **Fn+F10** hotkeys, press **Scroll Lock+Scroll Lock+F10**.

  NOTE: The **Fn+F6** hotkeys cannot be used on an external keyboard connected through a USB connector.

- **To close a window opened with hotkeys,** use standard Windows procedures or press the hotkeys again.

Hotkeys Quick Reference

Task	Hotkeys
Switch the display and image.	**Fn+F4**
Adjust system volume.	**Fn+F5**
Initiate Quick Controls.	**Fn+F6**
Set a power conservation level.	**Fn+F7**
View battery charge status.	**Fn+F8**
Adjust screen brightness.	**Fn+F10**
Display system information.	**Fn+Esc**
Stretch text.	**Fn+T**

Switching the Display and Image

In Windows 95 or Windows NT 4.0 toggle **Fn+F4** to switch the image among the computer display, an external display, and simultaneous display. The external display can be connected through the external monitor connector or the video-out jack.

In Windows 98 toggle **Fn+F4** to switch the image between the computer display and an external display that is connected through the external monitor connector.

- When MultiMonitor is enabled, press **Fn+F4** to turn off the external display and disable MultiMonitor.
- When MultiMonitor is disabled, toggle **Fn+F4** to switch the image among the computer display, the external display, and simultaneous display.

Adjusting System Volume

- To adjust system volume with an onscreen slide button or with the keyboard arrow keys, press **Fn+F5.**
- To mute or restore volume
  - Press **Fn+F5+M**

    or
  - Press **Fn+F5,** then select or clear the Mute checkbox.

Initiating Quick Controls

Quick Controls security features disable the keyboard and pointing device and clear the screen. Before you can use Quick Controls, you must set a power-on password and enable Quick Control preferences. For instructions, refer to Chapter 7.

- To initiate Quick Controls manually, press **Fn+F6.**
- To exit Quick Controls, enter your power-on password.

The **Fn+F6** hotkeys cannot be used on an external keyboard connected through a USB connector on the computer or an optional docking base.

Setting a Power Conservation Level

In Windows 98 press **Fn+F7** to open the Power Schemes window.

In Windows 95 or Windows NT 4.0 press **Fn+F7** to open the Battery Conservation Settings window.

- To select a preset battery conservation level, choose among
  - High—Maximizes running time from a single charge.
  - Medium—Balances system performance with running time.
  - None (Drain)—Runs the computer at full power.
- For information about the Custom level, refer to "Using Power Preferences" in Chapter 5.

Viewing Battery Charge Status

Press **Fn+F8** to view the status of all installed battery packs. Battery packs are listed by location.

- To display the location of a listed battery pack, select the corresponding battery icon.
- A lightening bolt icon beside a battery icon indicates that the battery pack in that location is charging.

NOTE: The availability of docking base bays varies by model and configuration.

Adjusting Screen Brightness

Press **Fn+F10** to adjust the brightness of the computer screen with an onscreen slide button or with the arrow keys.

Displaying System Information

Press **Fn+Esc** to display information about system hardware components and software version numbers.

NOTE: The number beside System BIOS is the version number of your system ROM.

Stretching Text

When the computer is running MS-DOS under Windows and the desktop area resolution is set lower than the display resolution, press **Fn+T** to toggle the image between Text Stretch, which stretches the text to fill more of the screen, and Regular. Text Stretch is the default. While Regular is selected, a graphics accelerator cannot be enabled.

Using the Embedded Numeric Keypad

Toggling the Keypad On and Off

- To convert the embedded numeric keypad section ❶ of the keyboard to a keypad, press **Fn+Num Lk ❷.** When the embedded numeric keypad is enabled, the characters upper-right on the keypad keys are active and the num lock light ❸ is on.
- To disable the embedded numeric keypad, press **Fn+Num Lk.**
- The embedded numeric keypad cannot be enabled while an optional external keyboard or numeric keypad is connected to the computer.

Operating the Keypad Keys as Standard Keys

To use the embedded numeric keypad keys as standard keyboard keys while the keypad is enabled:

- Press and hold **Fn** to type in lowercase.
- Press and hold **Fn+Shift** to type in uppercase.

Enabling the Keypad at Startup

- **To set the computer to start up with the embedded numeric keypad enabled**—

  1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
     - To change the language, press **F2.**
     - For navigation instructions, press **F1.**
  2. Select Advanced→Device Options, then press **Enter.**
  3. Toggle on the Num Lock State at Boot field, then press **F10**.
  4. To save your preferences, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
  5. When prompted to confirm your action, press **F10.**

- **To disable the embedded numeric keypad at startup**—Repeat the above procedure, toggling off the Num Lock State at Boot field.

NOTE: The embedded numeric keypad can be enabled or disabled with **Fn+Num Lk** in either startup state.

chapter 4

INSERTING, REMOVING, OR STORING A BATTERY PACK

Selecting a Battery Pack Location

WARNING: To reduce the risk of personal injury or damage to the battery pack, do not crush, puncture, or incinerate the battery pack or short the metal contacts. Do not attempt to open or service the battery pack.

The following battery packs can be used in the computer only in the indicated locations.

Selecting a Battery Pack Location

Battery Pack	Location
Primary battery pack (8 cell, 17 mm, included with the computer)	Battery bay
MultiBay battery pack (6 prismatic cell, 12.7 mm, optional)	Bottom MultiBay
Dual-MultiBay battery pack (12 cell, 25 mm, optional)	MultiBay (fills both top and bottom MultiBays)

Inserting Multiple Battery Packs

The computer supports up to two battery packs, one in the battery bay and one in a MultiBay. A drive can be inserted in the top MultiBay while a MultiBay battery pack is in the bottom MultiBay.

Multiple battery packs in the system charge and discharge by location in a preset sequence.

- **Charge sequence**—(1) computer battery bay, (2) computer MultiBay, (3) expansion base right MultiBay or convenience base battery charging bay, (4) expansion base left MultiBay or convenience base MultiBay.

  NOTE: The availability of docking base bays varies by model and configuration.

- **Discharge sequence**—(1) computer MultiBay, (2) computer battery bay.

While a battery pack is in a docking base bay, the battery pack can be charged, but cannot be used to run the computer.

Storing a Battery Pack

CAUTION: To prevent damage to a battery pack, do not expose it to high temperatures for extended periods of time.

If the computer will be unused and unplugged from an external power source for more than 2 weeks, remove and store the battery pack(s).

Proper storage procedures reduce the self-discharge rate of a battery pack. Store a battery pack in a cool, dry place within the following temperature ranges.

Recommended Battery Pack Storage Temperatures

Storage Time	Temperature Range °F	Temperature Range °C
Less than 1 month	32°–122°	0°–50°
No more than 3 months	32°–104°	0°–40°
Unlimited	32°– 86°	0°–30°

Replacing the Primary Battery Pack

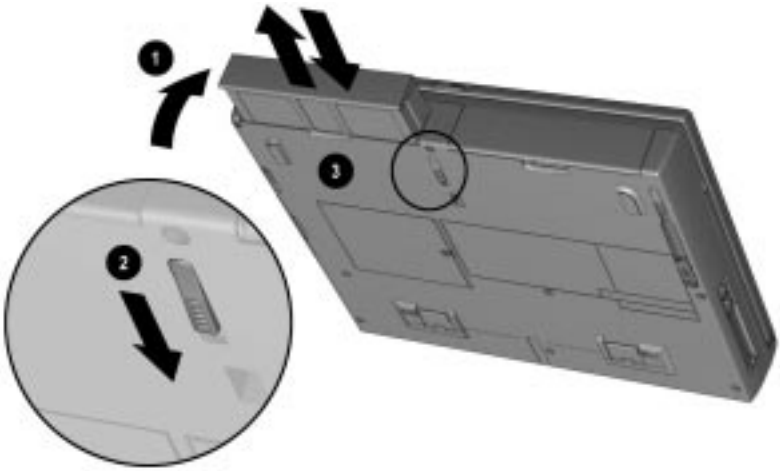
CAUTION: To prevent loss of work while replacing a battery pack that is the only power source available to the system:

- Initiate Suspend (Standby) before removing the discharged battery pack.
- Insert the replacement battery pack within 5 minutes after removing the discharged battery pack.

1. If the computer is on, a MultiBay does not contain a charged battery pack, and the system is not connected to external power, initiate Suspend (Standby) by pressing the suspend button.

   NOTE: Extensive drive activity may delay Suspend (Standby).

2. Insert or remove the battery pack.
   - **To remove the primary battery pack**—Tilt the computer up ❶, then slide the battery release latch ❷ toward the rear of the computer while pulling on the center lower edge of the battery pack ❸.
   - **To insert the primary battery pack**—With the large label facing up and the contacts facing the computer, slide the battery pack into the battery bay.
3. If you initiated Suspend (Standby), press the suspend button to return your work to the screen.



Inserting or Removing a MultiBay Battery Pack

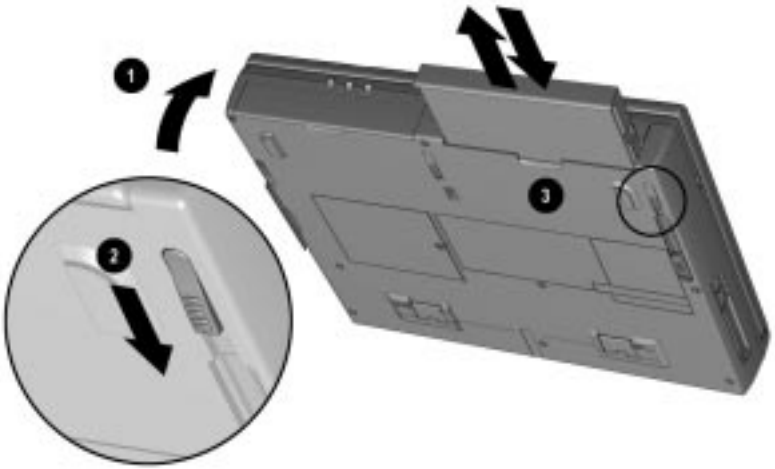
CAUTION: To prevent loss of work while replacing a battery pack that is the only power source available to the system:

- Initiate Suspend (Standby) before removing the discharged battery pack.
- Insert the replacement battery pack within 5 minutes after removing the discharged battery pack.

1. If the computer is on, the battery bay does not contain a charged battery pack, and the system is not connected to external power, initiate Suspend (Standby) by pressing the suspend button.

   NOTE: Extensive drive activity may delay Suspend (Standby).

2. Insert or remove the battery pack.
   - **To remove a MultiBay battery pack**— Tilt the computer up ❶, then slide the front MultiBay release latch ❷ toward the rear of the computer while pulling on the center lower edge of the battery pack ❸.
   - **To insert a MultiBay battery pack**—With the large label facing up and the contacts facing the computer, slide the battery pack into the bottom MultiBay.
3. If you initiated Suspend (Standby), press the suspend button to return your work to the screen.



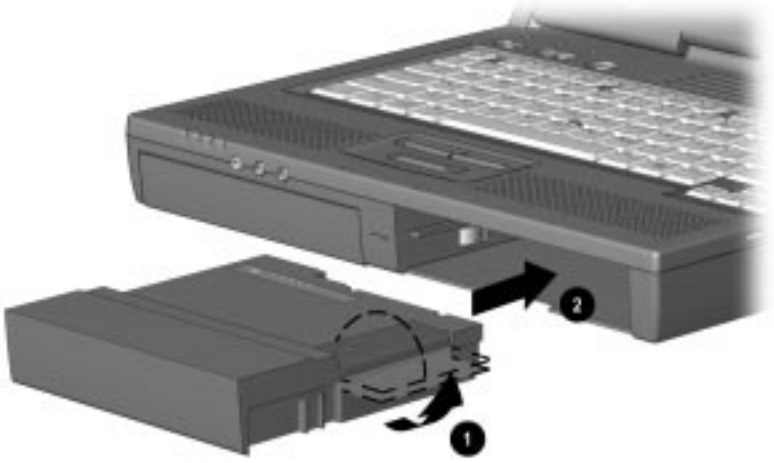
Inserting or Removing a Dual-MultiBay Battery Pack

Inserting a Dual-MultiBay Battery Pack into the Dual MultiBay

CAUTION: To prevent loss of work while replacing a battery pack that is the only power source available to the system:

- Initiate Suspend (Standby) before removing the discharged battery pack.
- Insert the replacement battery pack within 5 minutes after removing the discharged battery pack.

1. Rotate the flap onto the top of the battery pack and snap the flap into place ❶.
2. With the large label facing up and the contacts facing the computer, insert the battery pack as if you were inserting it into the bottom MultiBay, then slide the battery pack into the Dual MultiBay ❷.
3. If you initiated Suspend (Standby) before replacing a battery pack, press the suspend button to return your work to the screen.



Removing a Dual-MultiBay Battery Pack from the Dual MultiBay

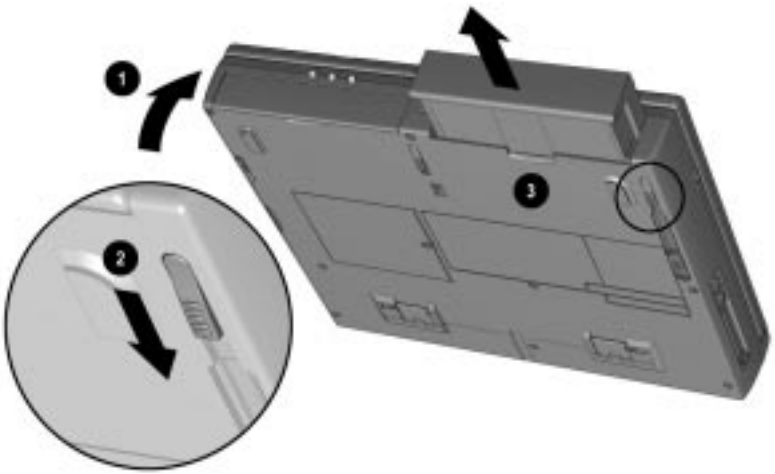
CAUTION: To prevent loss of work while replacing a battery pack that is the only power source available to the system:

- Initiate Suspend (Standby) before removing the discharged battery pack.
- Insert the replacement battery pack within 5 minutes after removing the discharged battery pack.

1. If the computer is on, the battery bay does not contain a charged battery pack, and the system is not connected to external power, initiate Suspend (Standby) by pressing the suspend button.

   NOTE: Extensive drive activity may delay Suspend (Standby).

2. Tilt the computer up ❶, then slide the front MultiBay release latch ❷ toward the rear of the computer while pulling on the center lower edge of the battery pack ❸.



chapter 5

MANAGING POWER

Selecting a Power Source

Selecting a Power Source

Task	Power Source
Work within installed applications.	■ Charged battery pack in the computer or ■ External power supplied through one of the following: ■ Power cord or optional DC cable ■ Optional docking base ■ Optional Automobile Power Adapter/Charger ■ Optional Aircraft Power Adapter
Charge or calibrate a battery pack in the computer.	External power supplied through ■ Power cord ■ Optional docking base ■ Optional Automobile Power Adapter/Charger
Install, reinstall, update, or perform other major modifications to system software.	External power supplied through power cord or optional DC cable

Beginning, Leaving, or Resuming Your Work

You can conserve power and reduce startup time by using **Suspend (Standby)** or **Hibernation**.

- **Suspend,** called **Standby** in Windows 98, is an energy-saving feature that reduces power to system components that are not being used. When the computer is in Suspend (Standby), your work is saved in random access memory (RAM) and the screen is cleared.
- **Hibernation** is an energy-saving feature that saves all information in RAM to a hibernation file on the hard drive, then shuts down the computer.

If you plan to resume shortly—Initiating Suspend (Standby) clears the screen, uses less power than leaving the computer on, and your work returns instantly to the screen when you exit Suspend (Standby). A fully charged battery pack can support Suspend (Standby) for up to 2 weeks, but frequent charging and discharging shorten battery pack life.

If you plan to resume within two weeks—Initiating Hibernation clears the screen, saves your work to the hard drive, and uses less power than Suspend (Standby). Returning to work saved in Hibernation takes longer than returning to work placed in Suspend (Standby), but is faster than returning to your place manually after restarting the computer. A fully charged battery pack supports Hibernation indefinitely.

If the computer will be disconnected from external power for more than two weeks—Shutting down the computer and removing the battery pack extends the useful life of the battery pack. Store the battery pack in a cool, dry place.

Beginning, Leaving, or Resuming Your Work

Task	Procedure	Result
Turn the computer on from shutdown.	■ Slide power switch. or ■ Press suspend button.**	Power/suspend* light turns on. Operating system loads.
Shut down the computer.	Shut down the computer as directed by your operating system documentation.	Power/suspend* light turns off. Operating system closes and turns off all power. Computer turns off.

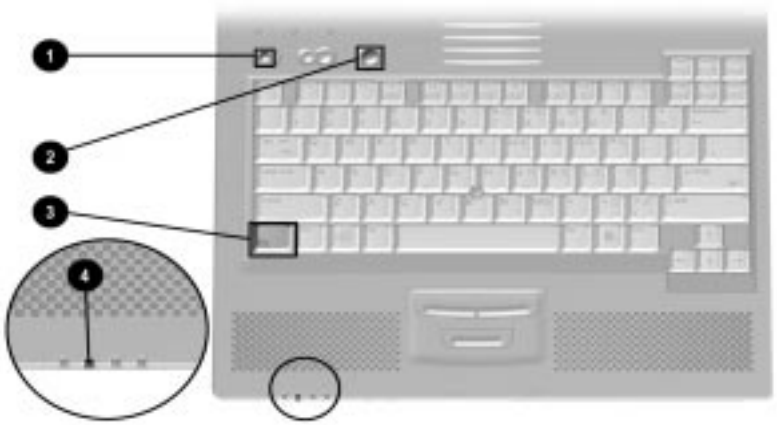
Continued

Beginning, Leaving, or Resuming Your Work *Continued*

Task	Procedure	Result
Initiate Suspend.*	■ Press suspend button.** or ■ **In Windows 95,** select Suspend on the Start menu ■ **In Windows 98,** select Stand by on the Shutdown menu.	Power/suspend* light blinks. System beeps twice. Screen clears.
Exit Suspend.*	■ Press suspend button.** or ■ Slide power switch.	Power/suspend* light turns on. System beeps once. Your work returns to the screen.
Initiate Hibernation.	Press **Fn** + suspend button.	Power/suspend* light turns off. System beeps twice. Screen clears.
Restore from Hibernation.	Slide power switch.	Power/suspend* light turns on. System beeps once. Your work returns to the screen.

*In Windows 98 the term *Standby* replaces the term *Suspend.*

**In Windows 98 the term *sleep button* replaces the term *suspend button.*



❶ Power switch
❷ Suspend button
❸ **Fn** key
❹ Power/suspend light

Managing Low-Battery Conditions

Identifying Low-Battery Conditions

- When a battery pack that is the only source of power available to the computer reaches a low-battery condition
  - The system beeps 5 times.
  - The battery light ❶ blinks.
- If the low-battery condition is not resolved, the computer will enter a *critical* low-battery condition. In a *critical* low-battery condition,
  - **If Hibernation is enabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, then initiates Hibernation. (Hibernation is enabled by default.)
  - **If Hibernation is disabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, and the power/suspend light ❷ blinks. The computer remains *briefly* in Suspend (Standby), then shuts down and your unsaved work is lost.

Resolving Low-Battery Conditions

- **If external power is available, do one of the following—**
  - Connect the computer to an electrical outlet with the power cord or an optional DC cable.
  - Dock the computer in a docking base that is connected to external power.
  - Plug an optional Automobile Power Adapter/Charger into the DC power jack on the computer and into a vehicle cigarette lighter receptacle.
  - Plug an optional Aircraft Power Adapter into the DC power jack on the computer and into the in-seat power supply available on some commercial aircraft.

  NOTE: An optional Aircraft Power Adapter can be used to run the computer, but cannot be used to charge a battery pack.
- **If a charged battery pack is available**—Press the suspend button to initiate Suspend (Standby), then remove the discharged battery pack and insert a charged battery pack.

  IMPORTANT: You must insert the charged battery pack within 5 minutes after removing the discharged battery pack.
- **If neither external power nor a charged battery pack is available—**
  - Press **Fn +** the suspend button to initiate Hibernation

    or
  - Save your work, then shut down the computer.

Restoring from Hibernation After Resolving a Critical Low-Battery Condition

Slide the power switch. If the computer does not have enough power to restore your work,

1. Press **Ctrl+Alt+Delete** to abort the restoration.
2. Insert a charged battery pack or connect the computer to external power.
3. Slide the power switch.

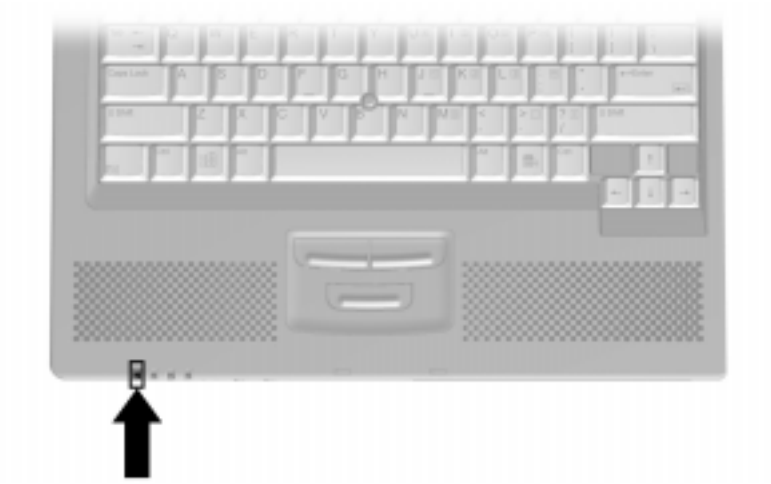
Charging a Battery Pack

A battery pack inserted into the computer battery bay, the computer MultiBay, or an optional Battery Charger or docking base charges whenever external power is available.

NOTE: Charging may be delayed if a battery pack is new, has not been used for 2 weeks or more, or is much warmer or cooler than a comfortable room temperature.

- **If you are charging the battery pack in the computer**—
  - External power can be supplied to the computer through the power cord, an optional docking base, or an optional Automobile Power Adapter/Charger.

    NOTE: An optional Aircraft Power Adapter does not charge a battery pack.
  - The battery light, shown below, turns on while the battery pack is charging and turns off when the battery pack is fully charged.



- **To increase the accuracy of all battery charge displays**—
  - Allow a battery pack to discharge to the low-battery level through normal use before charging it.
  - When you charge a battery pack, charge it fully.
  - Calibrate a new battery pack before you charge it.
  - Check the calibration on a battery pack that has not been used for 2 weeks or more before you charge it.

Monitoring the Charge in a Battery Pack

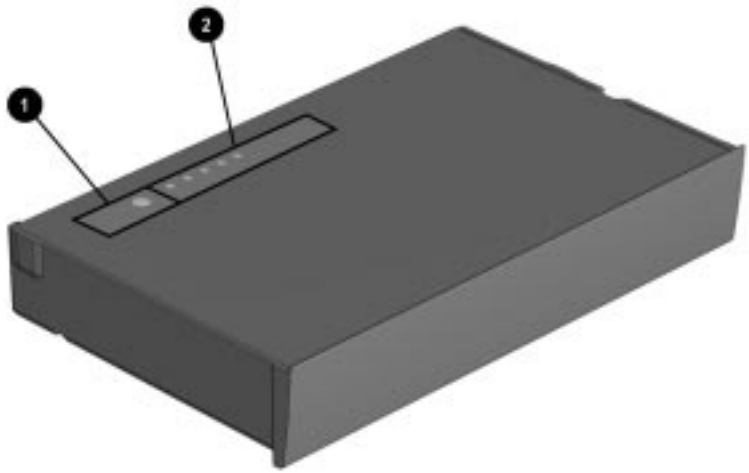
NOTE: The references in Windows 98 battery charge displays to a "standard APM battery pack" apply to all battery packs that can be used in the computer.

Using the Battery Charge Level Lights

The battery quick check feature enables you to monitor the charge in a battery pack when the battery pack is not in the computer.

- To display the percent of a full charge remaining in a battery pack, press the button ❶ on the battery pack.
- Each battery charge level light ❷ represents 20 percent of a full charge. For example, when all five lights are on, the battery pack is fully charged.

NOTE: The location of battery quick check features may vary among battery packs.



Using the Battery Status Tab

To access the Battery Status tab, press the **Fn+F8** hotkeys or select Start→Settings→Control Panel→power icon→Battery Status tab.

- To display the location of a listed battery pack, select the corresponding battery icon.
- A lightening bolt icon beside a battery icon indicates that the battery pack in that location is charging.

NOTE: The availability of docking base bays varies by model and configuration.

Using the Battery Meter or Power Meter Icon

The battery meter icon, called the power meter icon in Windows 98, changes shape to indicate whether the computer is running on external power or on a full, half-full, or nearly discharged battery pack.

To display the battery meter icon in the taskbar

- **In Windows 95** select Start→Settings→Control Panel→Power→Power tab, then select the Show Battery Meter on the Taskbar checkbox.
- **In Windows 98** select Start→Settings→Control Panel→Power Management→Power Meter tab, then select the Show Power Meter on the Taskbar checkbox.
- **In Windows NT 4.0** the battery meter icon displays in the taskbar by default.

When the battery meter or power meter icon is displayed in the taskbar, the icon can also be used as follows:

Windows 95 and Windows 98

Task	Procedure
View the total battery power remaining in the system.	Rest the pointer over the icon.
Enable/disable an on-screen critical low-battery warning.	Left-click the icon, select or clear the Enable Low Battery Warning checkbox, then select OK.
Access the Power tab in the Power Properties window.	Right-click the icon, select Adjust Power Properties, then press **Enter**.
Open battery meter (power meter) in a popup window.	Double-click the icon.
Display charge information as a percent of a full charge or as the run time remaining.	Left-click the icon, then select your preference in the popup window.

Windows NT 4.0

Task	Procedure
View the total battery power remaining in the system.	Rest the pointer over the icon.
Open the Compaq Power Properties window.	Double-click or right-click the icon.

Using the Power or Power Meter Tab

The power tab available in Windows 95 is similar to the power meter tab available in Windows 98.

- To access the power or the power meter tab
  - **In Windows 95** select Start→Settings→Control Panel→ Power→Power tab.
  - **In Windows 98** select Start→Settings→Control Panel→ Power Management→Power Meter tab.
- To view the combined percent of total power remaining in all battery packs in the system, clear the Show the Status of All Batteries checkbox.
- To view the percent of total power remaining in each battery pack in the system, select the Show the Status of All Batteries checkbox. The four numbered icons correspond as follows to battery pack locations:

  1 Computer battery bay
  2 Computer MultiBay
  3 Expansion base right MultiBay or convenience base battery charging bay
  4 Expansion base left MultiBay or convenience base MultiBay

  NOTE: The availability of docking base bays varies by model and configuration.

Calibrating a Battery Pack

Calibration increases the accuracy of all battery charge displays.

The calibration utility supports all battery packs that can be used in the computer.

Use the calibration utility both to check the calibration of a battery pack and to calibrate or recalibrate a battery pack.

- A battery pack cannot be calibrated unless the utility reports that it needs calibration.
  - A new battery pack can be charged, then used to run the computer before the battery pack is calibrated. However, the amount of charge in the new battery pack cannot be reported accurately until the new battery pack has been calibrated.

    NOTE: A new battery pack must be fully charged within 30 days of first use. Because the calibration process comprises a full charge followed by a full discharge, calibrating a new battery pack meets this full-charge requirement.
  - Check the calibration of an in-use battery pack periodically and whenever battery charge displays seem inaccurate.

    NOTE: The more frequently you partially charge and discharge a battery pack, the more frequently you should check the calibration of the battery pack.
- While a battery pack is being calibrated, it is fully charged, then fully discharged.
  - A battery calibration icon in the taskbar displays an Up arrow during the charge phase and a Down arrow during the discharge phase.
  - A calibration cannot resume if the calibration is stopped or if the computer is shut down or placed in Suspend (Standby) during a calibration. An interrupted calibration must be restarted.
  - After calibration, a battery pack must be charged before it can be used to run the computer.
- The calibration utility calibrates one battery pack at a time and can run while you use the computer or overnight.

Checking or Running a Calibration

1. **To check the calibration of a battery pack**—Insert the battery pack into the computer battery bay or a computer or optional docking base MultiBay. To check the calibration of a battery pack in a docking base MultiBay, the computer must be docked and the base must be connected to external power.

   To calibrate a battery pack—Insert the battery pack into the computer battery bay or MultiBay. Then connect the computer to external power through the power cord, an optional Automobile Power Adapter/Charger, or a docking base that is connected to external power.

2. To access the Battery Calibration tab, select Start→Settings→Control Panel→power icon→Battery Calibration tab.

3. View the calibration reports in the Status column. The battery numbers in the Battery column correspond to the following locations:

Battery Number	Battery Pack Location
1	Computer battery bay
2	Computer MultiBay
3	Expansion base right MultiBay or convenience base battery charging bay
4	Expansion base left MultiBay or convenience base MultiBay

4. Select any location number that shows "Needs calibration."

5. Select the Start Calibration button.

Stopping a Calibration

Shut down the computer or select the Stop Calibration button on the Battery Calibration tab. The Stop Calibration button is visible only during a calibration.

Setting Power Preferences

You can increase, decrease, and allocate the power used by the computer by setting power preferences.

- Increasing power increases performance, while decreasing power conserves energy and extends battery operating time.
- By decreasing power to unused components and functions, you can allocate more power to the components and functions you are currently using.

Many power preferences are **timeout** settings.

- A timeout is the period of inactivity before the system initiates a power change or reduces power to a component. For example, the computer is preset to initiate Suspend (Standby) after a period of inactivity. The time interval between when you stop using the computer and the onset of system-initiated Suspend (Standby) is a Suspend (Standby) timeout
- Depending on your operating system, you can set timeouts that are specific to various conditions, components, or procedures as well as specify the duration of those timeouts.

The following tables list power preference procedures that are not described in your operating system documentation.

- For additional power preference options, refer to your operating system documentation.
- For a summary of power preference settings that extend battery operating time, refer to “Conserving Battery Power” later in this chapter.

Setting Power Preferences in Windows 95

Preference	Procedure from Control Panel
Select a preset battery conservation level that applies whenever the computer is running on battery power. **NOTE:** A battery conservation level can also be displayed and selected with the **Fn+F7** hotkeys.	Select Power→Battery Conservation Settings tab, then select a conservation level: ■ High—Provides maximum battery conservation. ■ Medium—Balances battery conservation and system performance. ■ None (drain)—Provides maximum power.
Create a custom battery conservation level that applies settings for the following whenever the computer is running on battery power. ■ Suspend timeout ■ System idle timeout ■ Processor speed ■ Screen brightness	Select Power→Battery Conservation Settings tab. Select Custom, then enter your preferences. **NOTE:** A custom battery conservation level can be selected, but not created, by using the **Fn+F7** hotkeys.
Enable/disable low-battery warning beeps.	Select Power→Battery Conservation Settings tab, then select the On or Off radio button.
Set Hibernation timeout.	Select Power→Hibernation tab, then select a timeout from the Timeout drop-down list. **NOTE:** This setting does not affect system-initiated Hibernation during a critical low-battery condition.
Exit Suspend after a user-selected timeout.	Select Power→Resume Timer tab. Select the Enabled checkbox, then select a date and time from the corresponding drop-down lists.
Set computer to initiate Hibernation rather than Suspend.	Select Power→Hibernation tab, then select Standby in the Timeout drop-down list.

Continued

Setting Power Preferences in Windows 95 *Continued*

Preference	Procedure from Control Panel
Turn off power to an optional PC Card modem.	Select Power→PC-Card Modems tab, then select the checkbox for Turn Off PC-Card Modems When Not in Use.
Change location of Hibernation file.	Select Power→Hibernation tab, then select the new location from the Drive for Hibernation File drop-down list.
Enable/Disable Hibernation.	Select Power→Hibernation tab, then select the On or Off radio button. **CAUTION:** If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work will be lost.

Setting Power Preferences in Windows 98

To access most power preference settings—Select Start→ Settings→Control Panel→Power Management. For information about setting all Power Management preferences except the following, refer to your Windows 98 documentation.

CAUTION: If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work will be lost.

- **To enable or disable Hibernation**—Select the Hibernation tab, then select the On or Off radio button.
- **To set a screen brightness level that applies when the computer is running on a battery pack**—Select the Battery Conservation Settings tab, then select a percent from the Brightness drop-down list.

If you are accustomed to running Windows 95 or Windows NT 4.0 on a Compaq portable computer—You will find most of the power preference options you formerly accessed in Power Properties in the Windows 98 Power Management Properties window. However, in Windows 98

- Processor speed is managed by the operating system.
- The easiest way to turn off power to a PC Card is to remove the PC Card.
- The **Fn+F7** hotkeys open the Power Schemes window.
- The preferences you formerly set on the Resume Timer tab can be set at Start→Programs→Accessories→System Tools→Scheduled Tasks.

Setting Power Preferences in Windows NT 4.0

Preference	Procedure from Control Panel
Select a preset battery conservation level that applies whenever the computer is running on battery power. **NOTE:** A battery conservation level can also be displayed and selected with the **Fn+F7** hotkeys.	Select Compaq Power→Battery Conservation Settings tab, then select a conservation level: ■ High—Provides maximum battery conservation. ■ Medium—Balances battery conservation and system performance. ■ None (drain)—Provides maximum power.
Create a custom battery conservation level that applies settings for the following whenever the computer is running on battery power. ■ Suspend timeout ■ System idle timeout ■ Processor speed ■ Screen brightness	Select Power→Battery Conservation Settings tab. Select Custom, then enter your preferences. **NOTE:** A custom battery conservation level can be selected, but not created, by using the **Fn+F7** hotkeys.
Create a power conservation level that applies settings for the following whenever the computer is running on external AC or DC power. ■ Screen save timeout ■ Hard drive timeout ■ Energy-saving monitor timeout	1. Select Compaq Power→AC Energy Saver tab. 2. Select the AC Energy Saver On radio button. 3. To set a screen save timeout, select a timeout in the Screen Save drop-down list. 4. To set a hard drive timeout, select a timeout in the Hard Disk Idle drop-down list. 5. To enable an external monitor to enter a low-power mode following a screen save timeout, select the Energy Save Monitor checkbox. **NOTE:** You will not be logged off a network when the monitor enters low-power mode.

Continued

Setting Power Preferences in Windows NT 4.0 *Continued*

Preference	Procedure from Control Panel
Enable/disable low-battery warning beeps.	Select Compaq Power→Battery Conservation Settings tab, then select the On or Off radio button.
Exit Suspend after a user-selected timeout.	Select Compaq Power→Resume Timer tab. Select the Enabled checkbox, then select a date and time from the corresponding drop-down lists.
Set Hibernation timeout.	Select Compaq Power→Hibernation tab, then select a timeout from the Timeout drop-down list. **NOTE:** This setting does not affect system-initiated Hibernation during a critical low-battery condition.
Set the computer to initiate Hibernation rather than Suspend.	Select Compaq Power→Hibernation tab, then select Standby in the Timeout drop-down list.
Change location of the hibernation file.	Select Compaq Power→Hibernation tab, then select the new location from the Drive for Hibernation File drop-down list.
Enable/Disable Hibernation.	Select Compaq Power→Hibernation tab, then select the On or Off radio button. **CAUTION:** If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work will be lost.

Turning Auto Insert Notification On or Off

Auto insert notification runs a CD-ROM or DVD-ROM on insertion, but drains power and, if the computer is running Windows 95 or Windows NT 4.0, prevents both system-initiated Suspend (Standby) and system-initiated Hibernation. To turn off auto insert notification:

- **In Windows 95 or Windows 98** select Start→Settings→Control Panel→System→Device Manager→CD-ROM→Properties. Clear the CD-ROM Auto Insert Notification checkbox.
- **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab. Clear the CD-ROM Auto Insert Notification checkbox.

To turn on auto insert notification, select the CD-ROM Auto Insert Notification checkbox.

Conserving Battery Power

Battery Power Conservation Checklist

- Exit modem applications and turn off local area network (LAN) connections when you are not using them.
- Disconnect external equipment you are not using that is not connected to an external power source.
- If you leave your work, initiate Suspend (Standby) or Hibernation or shut down the computer.
- Remove PC Cards you are not using.
- Use the **Fn+F10** hotkeys to quickly raise and lower display brightness as you work.
- Run the computer on external power while formatting a diskette.

Conserving Battery Power in Windows 95

- Select Start→Settings→Control Panel→Power. Then
  - On the Battery Conservation Settings tab, select the High battery conservation level or select the Custom battery conservation level, then enter even lower settings.
  - On the Disk Drives tab, set a low When Powered By Batteries timeout for the disk drive.
  - If you are using a PC Card modem: on the PC-Card Modems tab, select the checkbox for Turn Off PC-Card Modems When Not in Use
- If Infrared Monitor is enabled, select Start→Settings→Control Panel→Infrared→Options tab, then clear the checkbox for Search for and Provide Status for Devices in Range.

  IMPORTANT: You cannot establish an infrared link while this checkbox is cleared. For more information about infrared, refer to Chapter 12.
- If a CD-ROM or DVD-ROM is in the system, select Start→Settings→Control Panel→System→Device Manager→CD-ROM properties, then clear the CD-ROM Auto Insert Notification checkbox.

Conserving Battery Power in Windows 98

- Select Start→Settings→Control Panel→Power Management→Power Schemes tab, then create a power scheme that conserves battery power.
- Select Start→Settings→Control Panel→Power Management→Battery Conservation Settings. Then select a low screen brightness.
- Select the infrared icon in the task bar→Options tab, then clear the checkbox for Search for and Provide Status for Devices in Range.

  IMPORTANT: You cannot establish an infrared link while this checkbox is cleared. For more information about infrared, refer to Chapter 12.
- If a CD-ROM or DVD-ROM is in the system, select Start→Settings→Control Panel→System→Device Manager→CD-ROM properties, then clear the CD-ROM Auto Insert Notification checkbox.

Conserving Battery Power in Windows NT 4.0

- Select the Start button→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab. Then
  - Select the High battery conservation level

    or
  - Select the Custom battery conservation level, then enter even lower settings.
- If a CD-ROM or DVD-ROM is in the system, select Start→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab, then clear the CD-ROM Auto Insert Notification checkbox.

chapter 6

USING DRIVES

Caring for Drives

CAUTION: To prevent loss of work and damage to the computer or a drive:

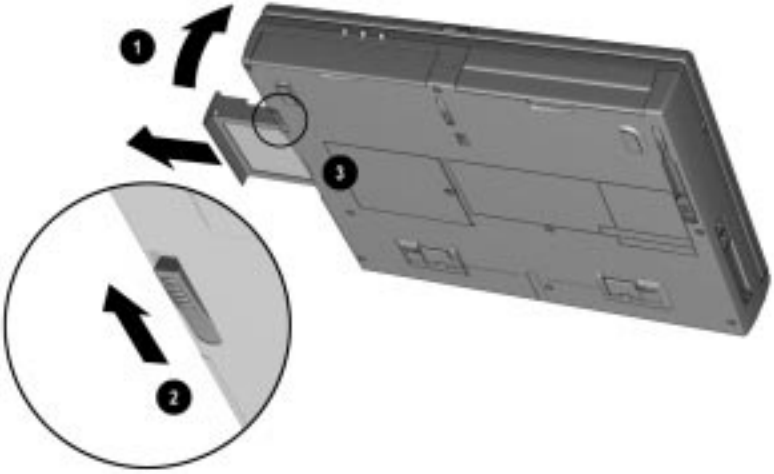
- If you are inserting or removing a hard drive, shut down the computer. Do not remove a hard drive while the computer is on or in Suspend (Standby) or Hibernation. To ensure that the computer is not in Hibernation, turn the computer on, then shut it down.
- Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector. For more information about preventing electrostatic damage, refer to Appendix C.
- Before traveling with, shipping, storing, or removing a drive other than a hard drive, make sure that no media, such as a diskette, CD-ROM, or DVD-ROM, is in the drive and that the media tray is closed.
- Handle a drive carefully; do not drop it.
- Do not use excessive force when inserting a drive.
- Avoid exposing a hard drive to liquids, temperature extremes, or products that have magnetic fields such as monitors or speakers.
- If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "Fragile: Handle With Care."

Removing and Inserting the Primary Hard Drive

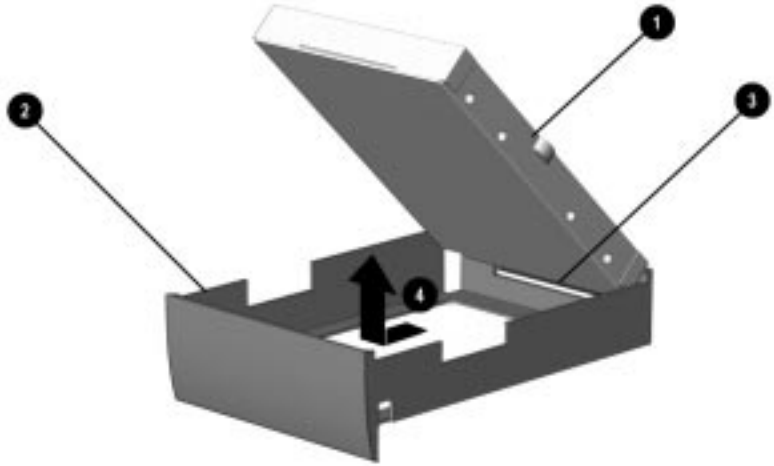
The primary hard drive is the hard drive in the hard drive bay. A 17-mm hard drive from an Armada 7800 or an Armada 7700 computer model can also be used as the primary hard drive (or, with an adapter, as a MultiBay drive).

Removing the Primary Hard Drive

1. Shut down the computer.
2. Tilt the computer up ❶, then slide the hard drive release latch ❷ toward the front of the computer while pulling on the center lower edge of the hard drive tray ❸.

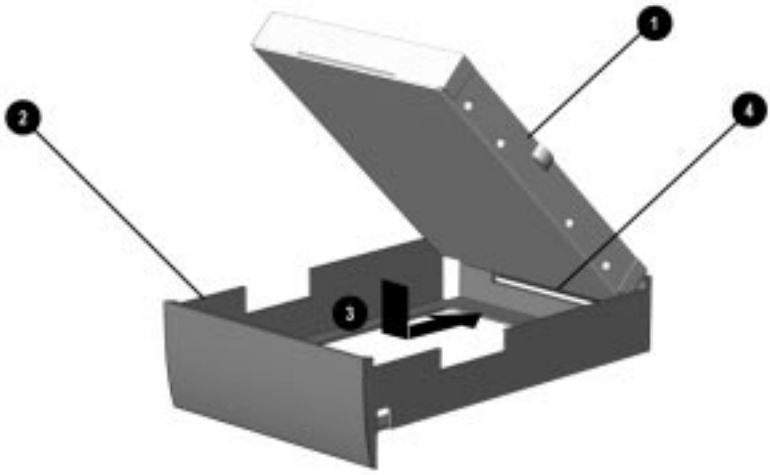


3. To remove the hard drive ❶ from the hard drive tray ❷, gently pull the drive connectors ❸ through the opening in the rear of the tray, then lift the drive out of the tray ❹.



Inserting the Primary Hard Drive

1. Shut down the computer.
2. To insert the hard drive ❶ into the hard drive tray ❷, tilt the hard drive, label side up, into the tray ❸ while guiding the drive connectors ❹ through the opening in the rear of the tray.



3. Slide the hard drive assembly (the hard drive in the hard drive tray) into the hard drive bay until it is seated ❶.

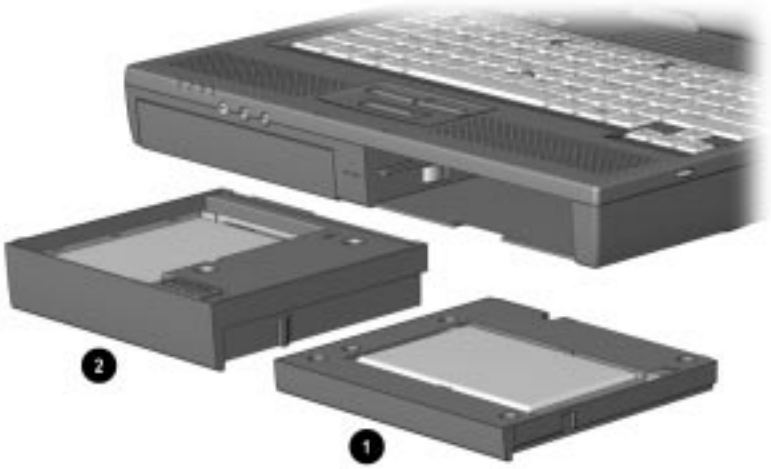
NOTE: When the hard drive in the hard drive bay is being accessed, the hard drive light ❷ is on.

Using a Drive in a MultiBay

Selecting a MultiBay Location

The MultiBay supports up to two 12.7-mm drives ❶, one each in the top and bottom MultiBay, or one 17-mm drive ❷, which fills the Dual MultiBay.

- A 12.7-mm diskette (floppy disk) drive can be used only in the bottom MultiBay.
- Other 12.7-mm drives (excluding diskette drives but including Imation SuperDisk LS-120 drives) can be used in either the top or bottom MultiBay.
- A 12.7-mm drive can be used in the top MultiBay while a MultiBay battery pack is inserted in the bottom MultiBay.



Selecting a MultiBay Drive Adapter

- A hard drive must be placed in an adapter before the drive can be used in a MultiBay.
- A 12.7-mm drive other than a hard drive can be inserted into a MultiBay without an adapter.

For information about obtaining MultiBay drive adapters, go to the Compaq Internet site at http://www.compaq.com or refer to Appendix A to contact a Compaq authorized dealer, reseller, or service provider.

Selecting a MultiBay Drive Adapter

To Insert This Drive	Into This MultiBay	Use This Adapter
17-mm Armada hard drive	Dual MultiBay	Dual-MultiBay Hard Drive Adapter
12.7-mm Armada hard drive	Top or bottom MultiBay	12.7-mm Armada MultiBay hard drive adapter
	Dual MultiBay	Dual-MultiBay Hard Drive Adapter
12.7-mm Armada drive other than a hard drive	Top or bottom MultiBay*	None

*Insert a diskette drive only into the bottom MultiBay.

Preparing to Insert or Remove a MultiBay Drive

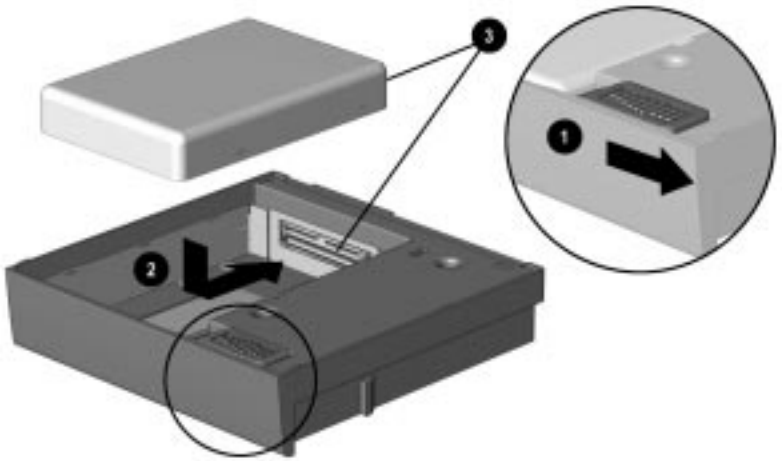
CAUTION: To prevent damage to the computer and the drive and loss of work:

- If you are inserting or removing a hard drive, shut down the computer. Do not remove a hard drive while the computer is on or in Suspend (Standby) or Hibernation. To ensure that the computer is not in Hibernation, turn the computer on, then shut it down.
- If the computer is running a retail version of Windows 95, Windows 98, or Windows NT 4.0 without software enhancements from Compaq, shut down the computer before inserting or removing any drive.

- **If the computer is running a preinstalled operating system**—You can insert or remove any drive except a hard drive while the computer is on, off, in Hibernation, or in Suspend (Standby).
- **If the computer is running a retail version of Windows 95, Windows 98, or Windows NT 4.0**—You can obtain software enhancements from Compaq that will enable you to insert or remove any drive other than a hard drive without first shutting down the computer. To obtain these enhancements, go to the Compaq Internet site at http://www.compaq.com.
- **If a drive is inserted or removed while the computer is on**—The computer beeps 3 times when the insertion or removal is recognized.

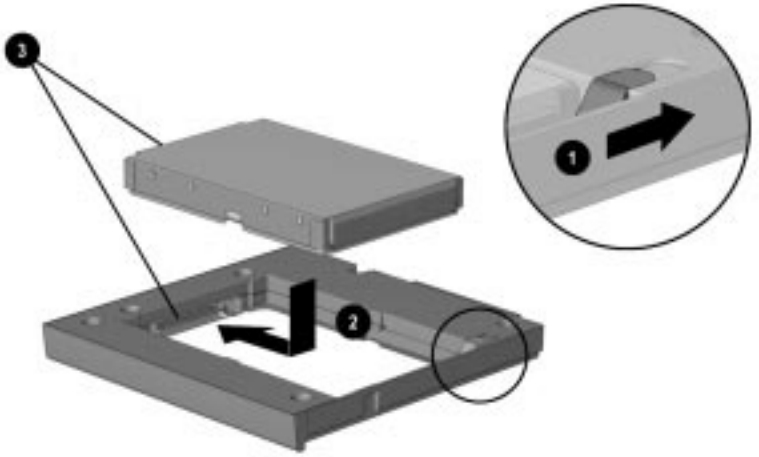
Inserting a Hard Drive into a MultiBay Adapter

1. Push and hold the adapter slide tab ❶.
2. Lower the drive, label side up, into the adapter ❷, then slide the drive connectors on the drive toward the drive connectors in the adapter ❸ until the connectors engage and the drive is seated.
3. Release the adapter slide tab.



Inserting a Hard Drive into a Dual-MultiBay Hard Drive Adapter

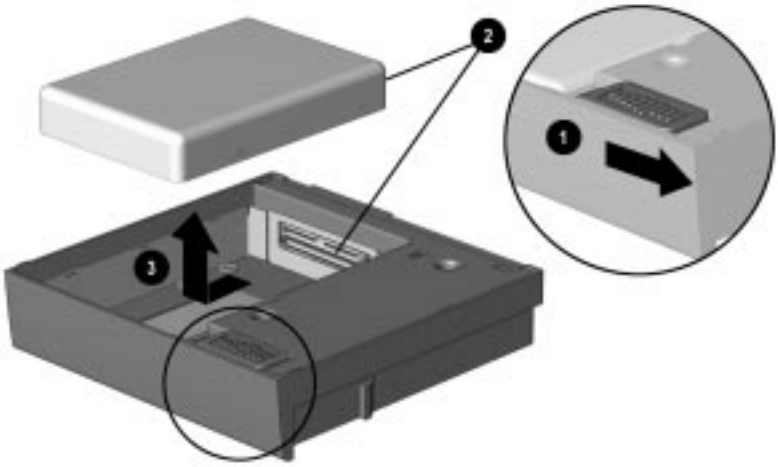
NOTE: A 17-mm hard drive is illustrated. The procedure is the same for a 12.7-mm hard drive.



Inserting a 12.7-mm Hard Drive into an Armada MultiBay Hard Drive Adapter

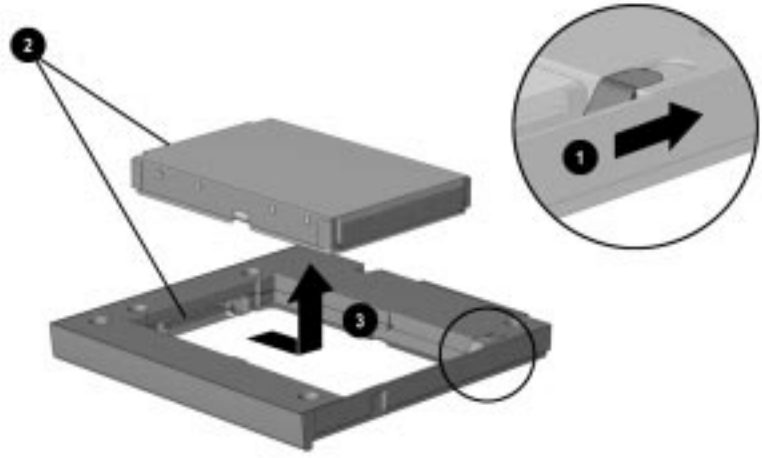
Removing a Hard Drive from a MultiBay Adapter

1. Push and hold the adapter slide tab ❶.
2. Gently disengage the drive connectors on the drive from the drive connectors in the adapter ❷, then lift the drive out of the adapter ❸.
3. Release the adapter slide tab.



Removing a Hard Drive from a Dual-MultiBay Hard Drive Adapter

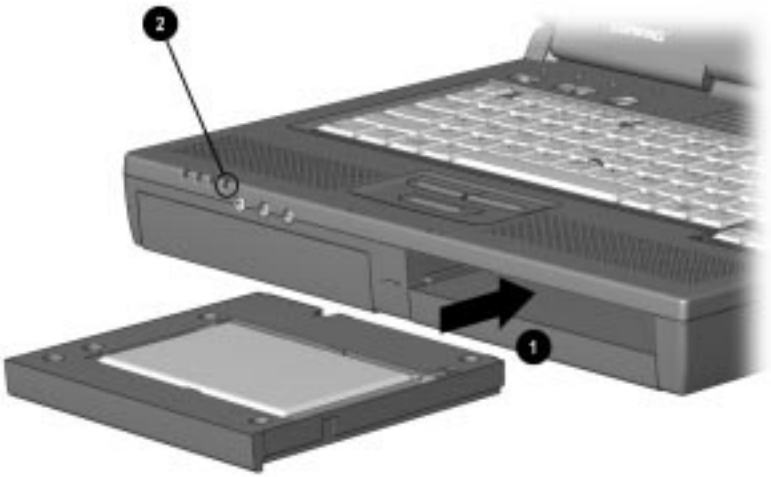
NOTE: A 17-mm hard drive is illustrated. The procedure is the same for a 12.7-mm hard drive.



Removing a 12.7-mm Hard Drive from an Armada MultiBay Hard Drive Adapter

Inserting or Removing a MultiBay Drive

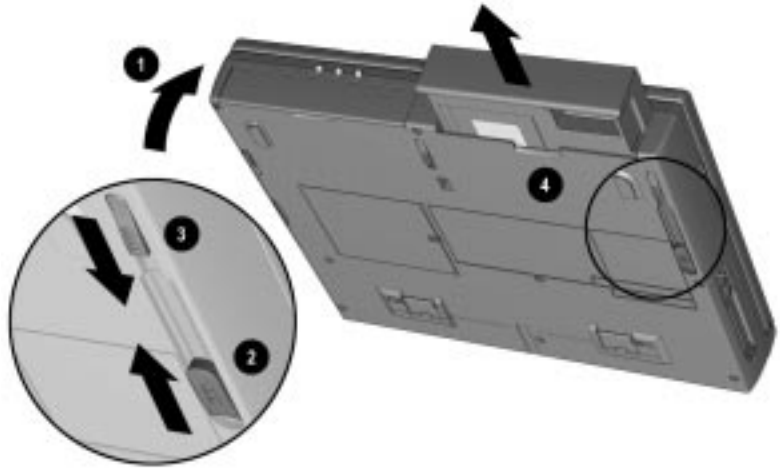
1. Shut down the computer if
   - You are inserting or removing a hard drive.
   - The computer is running a retail version of Window 95, Windows 98, or Windows NT 4.0 without software enhancements from Compaq.
2. If the drive has a media tray, remove any media.
3. Insert or remove the drive or drive assembly (a drive inserted into an adapter).
   - **To insert a drive or drive assembly**—With the drive connector facing the computer, slide the drive or drive assembly into a MultiBay until the drive or drive assembly is seated ❶.
     - Insert a diskette drive into the bottom MultiBay.
     - Insert a 17-mm drive assembly into the Dual MultiBay as if you were inserting it into the bottom MultiBay.



Inserting a 12.7-mm Drive into the Top MultiBay

NOTE: When a drive in a MultiBay is being accessed, the MultiBay light ❷ is on.

- **To remove a drive or drive assembly**—Tilt the computer up ❶. Then,
  - **If the drive is in the top MultiBay**—Slide the rear MultiBay release latch ❷ toward the front of the computer while pulling on the center lower edge of the drive or drive assembly.
  - **If the drive is in the bottom MultiBay or the Dual MultiBay**—Slide the front MultiBay release latch ❸ toward the rear of the computer while pulling on the center lower edge of the drive or drive assembly ❹.



Removing a 17-mm Hard Drive Assembly from the Dual MultiBay

Changing the Startup Sequence with MultiBoot

When more than one drive is in the system, the computer selects the drive to start from by searching for, first, a bootable CD-ROM or DVD-ROM; second, a bootable diskette; and third, a bootable hard drive.

NOTE: A bootable device or medium contains files needed by the computer to start up and operate properly.

The computer can start from

- Any bootable hard drive or bootable drive medium, such as a CD-ROM, DVD-ROM, or diskette, in the computer.
- Any bootable diskette drive diskette (but not a SuperDisk LS-120 drive diskette) in an optional expansion base.
- Any bootable peripheral interconnect (PCI) network adapter board in the computer.

By default, Phoenix MultiBoot is disabled and the computer selects the startup device by searching these locations in this sequence:

1	Computer top MultiBay or Dual MultiBay
2	Computer bottom MultiBay
3	Computer hard drive bay
4	Docking base left MultiBay
5	Docking base top or right MultiBay
6	Docking base bottom MultiBay
7	Ethernet board in computer
8–10	Docking base PCI slots containing Ethernet, Token Ring, or network boards.

NOTE: The availability and location of docking base bays and the availability and sequencing of docking base PCI slots varies by model and configuration.

To enable MultiBoot and change the sequence of the computer drive bay locations that the computer searches during startup:

1. Restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
2. Select Advanced→Boot Options, then press **Enter.**
3. Toggle the MultiBoot field to Enable.

4. Toggle the Boot Order fields to the boot sequence you prefer.

   NOTE: The Boot Order field for the computer top MultiBay or the computer Dual MultiBay is MultiBay-1; the Boot Order field for the computer bottom MultiBay is MultiBay-2.

5. To save your preferences and exit Boot Options, press **F10.**
6. To confirm saving your changes, close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **F10.**

When the computer restarts and searches for a startup drive, it considers only the first drive of each type. For example, in the default boot order, the computer will not start from a bootable diskette drive diskette in an expansion base if a non-bootable diskette drive diskette is in the computer bottom MultiBay.

IMPORTANT: Changing the boot order also changes the logical drive designations. For example, if you start up from a hard drive in the computer top MultiBay, it becomes drive C and a hard drive in the hard drive bay becomes drive D. Starting up from a network board does not affect logical drive designations.

chapter 7

SECURING THE COMPUTER

Security Features Quick Reference

To Protect Against This Risk	Use This Security Feature
Unauthorized use of the computer	Power-on password, with or without Quick Controls
Unauthorized access to the Computer Setup utility	Setup password
Unauthorized access to the contents of a hard drive	DriveLock
Unauthorized use of a drive or port	Device disabling
Unauthorized access to the memory expansion compartment	Memory security screw*
Unauthorized removal of the computer	Security cable slot

*If the computer shipped with a preinstalled memory expansion board, the memory compartment cover is already secured with a memory security screw.

If You Forget a Password

- If you forget your power-on or setup password, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized service provider.
- If you forget both the your user and master DriveLock passwords, the hard drive is permanently unusable.
- If you forget your DriveLock user password but know your DriveLock master password, you can remove DriveLock protection from the drive. For instructions, refer to "Using DriveLock" in this chapter.

Setting Passwords and Quick Controls

All passwords can be set, changed, or deleted in the Computer Setup utility. Some passwords can also be set, changed, or deleted by using the alternate procedures, some requiring the use of password symbols, described in the online *Quick Reference Guide.* All Quick Controls can be set in Computer Setup; most can also be set in an operating system window.

The Computer Setup utility can be used even when your Windows operating system is not functioning or will not load. To enable you to manage your passwords and Quick Controls under the broadest possible range of circumstances, this guide provides instructions for setting, changing, and deleting all passwords and Quick Controls in Computer Setup.

- To access alternate procedures for setting, changing, and deleting all passwords and most Quick Controls, select Start→Compaq Information Center→*Armada Quick Reference.*
- In all password utilities
  - Passwords do not display as you set, enter, change, or delete them.
  - Passwords must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if you enter it with embedded keypad number keys.

Using a Power-On Password

A power-on password

- Prevents unauthorized use of the computer. Once set, it must be entered each time the computer is turned on or restored from Hibernation.
- Enables you to use Quick Controls.
- Can be up to 7 alphanumeric characters, is not case sensitive, and can be the same as any other 7-character password.

Setting, Changing, or Deleting a Power-On Password

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
2. Select Security→Power-on Password, then press **Enter.** Then,
   - **To set a power-on password**—Type the password in the New Password field, then in the Verify New Password field, then press **F10.**
   - **To change a power-on password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press **F10.**
   - **To delete a power-on password**—Type the current password in the old Password field, then press **F10.**
3. To save your preferences, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
4. When prompted to confirm your action, press **F10.**

Entering a Power-On Password

At the power-on password prompt, type the password using the same keys you used to set the password, then press **Enter.** After 3 unsuccessful attempts to enter the password, you must restart the computer and try again.

Using Quick Controls

When a power-on password is set, the following Quick Controls are available:

- **QuickLock**—Disables the keyboard and pointing device.
- **QuickLock on Suspend**—Sets the computer to initiate QuickLock whenever the computer enters Suspend (Standby).
- **Lock keyboard and mouse at power-on**—Sets the computer to initiate QuickLock each time the computer is turned on or restarted.
- **QuickBlank**—Clears the screen whenever QuickLock initiates.

NOTE: Quick Controls cannot be used on an external keyboard connected through a USB connector.

Setting, Changing, or Deleting Quick Controls

NOTE: Disabling QuickLock does not remove a power-on password.

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
2. Select Security→Password Options. Enter your preferences, then press **F10.**

   NOTE: Password Options cannot be selected unless a power-on password is set.
3. To save your preferences, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
4. When prompted to confirm your action, press **F10.**

Initiating QuickLock

Press the **Fn+F6** hotkeys or press **Ctrl+Alt+L.**

Exiting QuickLock

Type the power-on password using the same keys you used to set the password, then press **Enter.**

Using a Setup Password

A setup password

- Protects the configuration settings and system identification information in Computer Setup by preventing unauthorized access to the utility. Once set, it must be entered each time you access Computer Setup.
- Can be up to 7 alphanumeric characters, is not case sensitive, and can be the same as any other 7-character password.

Setting, Changing, or Deleting a Setup Password

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
2. Select Security→Setup password, then press **Enter.** Then,
   - **To set a setup password**—Type the password in the New Password field, then in the Verify New Password field, then press **F10.**
   - **To change a setup password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press **F10.**
   - **To delete a setup password**—Type the current password in the Old Password field, then press **F10.**
3. To save your preferences, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
4. When prompted to confirm your action, press **F10.**

Entering a Setup Password

When prompted for the setup password, type the password using the same keys you used to set the password, then press **Enter.**

After 3 unsuccessful attempts to enter the setup password, you must restart the computer and try again.

CAUTION: If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

IMPORTANT: To access the DriveLock settings in Computer Setup, you must open Computer Setup after shutting down, then turning on the computer. If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

- DriveLock prevents unauthorized access to the contents of a hard drive. Once DriveLock protection is applied to a drive
  - A password must be entered to access the drive.
  - The drive can be accessed only when it is inserted in the computer hard drive bay or a computer MultiBay.
- DriveLock involves two passwords, a user password and a master password.
  - A hard drive protected by DriveLock can be accessed with either the user or the master password.
  - DriveLock protection can be removed from a hard drive only with the master password.
  - The owner of the user password should be the day-to-day user of the protected hard drive.
  - The owner of the master password may be a system administrator or the day-to-day user.
- A user or master password can be up to 32 alphanumeric characters and is not case sensitive.
  - The user and master password can be the same. A user or master password that is 7 characters or less can be the same as any other password.
  - When the computer is starting up from a hard drive protected with DriveLock, you will not be prompted for a power-on password if you enter a user or master password that is the same as the power-on password.
- You can delete a user or master password only by removing DriveLock protection from the drive.

Protecting a Hard Drive with DriveLock

CAUTION: If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

CAUTION: To prevent damage to the computer and the hard drive and loss of work, shut down the computer before inserting or removing a hard drive. Do not insert or remove a hard drive while the computer is on, in Suspend (Standby), or in Hibernation. To ensure that the computer is not in Hibernation, turn the computer on, then shut it down.

1. Ensure that the hard drive is inserted into the computer (not an optional docking base).
2. Turn on the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
3. Select Security→DriveLock passwords, then press **Enter.**
4. Select the location of the hard drive, then press **F10.**
5. Toggle the Protection field to Enable**.**
6. Read the warning. To continue, press **F10.**
7. Type a user password in the New Password field, then in the Verify New Password field, then press **F10.**
8. Type a master password in the New password field, then in the Verify New Password field, then press **F10.**
9. To confirm DriveLock protection on the drive you have selected, type DriveLock in the confirmation field, then press **F10.**
10. To save your DriveLock settings, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
11. When prompted to confirm your action, press **F10.**

Accessing a Protected Hard Drive

1. Ensure that the drive is inserted into the computer (not an optional docking base).
2. When prompted for a DriveLock password, type the user or master password, using the same keys you used to set the password, then press **Enter**. After 2 attempts to enter the password correctly, you must restart the computer to try again.

Changing a DriveLock Password or Removing DriveLock Protection from a Drive

CAUTION: To prevent damage to the computer and the hard drive and loss of work, shut down the computer before inserting or removing a hard drive. Do not insert or remove a hard drive while the computer is on, in Suspend (Standby), or in Hibernation. To ensure that the computer is not in Hibernation, turn the computer on, then shut it down.

1. Ensure that the protected hard drive is inserted into the computer (not an optional docking base).
2. Turn on the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
3. Select Security→DriveLock passwords, then press **Enter.**
4. Select the location of the hard drive, then press **F10.**
   - **To change a user or master password**—In the field of the password you want to change, type the current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press **F10.**
   - **To remove DriveLock protection from the drive**—Toggle the protection field to disable and press **F10**. Then type your master password in the Old Password field and press **F10.**
5. To save your changes, then exit Computer Setup and restart the computer, select File→Save Changes and Exit.
6. When prompted to confirm your action, press **F10.**

Disabling a Device

To ensure limited use of the computer by another user, you can disable most drives and ports.

- **In Windows 95 or Windows 98,** devices and functions can be enabled or disabled from either Device Manager or Computer Setup, but Compaq recommends that you use Device Manager.
  - To access Device Manager, select Start→Settings→Control Panel→System→Device Manager.
  - If you cannot access Device Manager because your operating system is not working or will not load, use Computer Setup as described below.
- **In Windows NT 4.0,** as a security measure, a device or function that is disabled in Computer Setup cannot be enabled from within Windows NT 4.0.

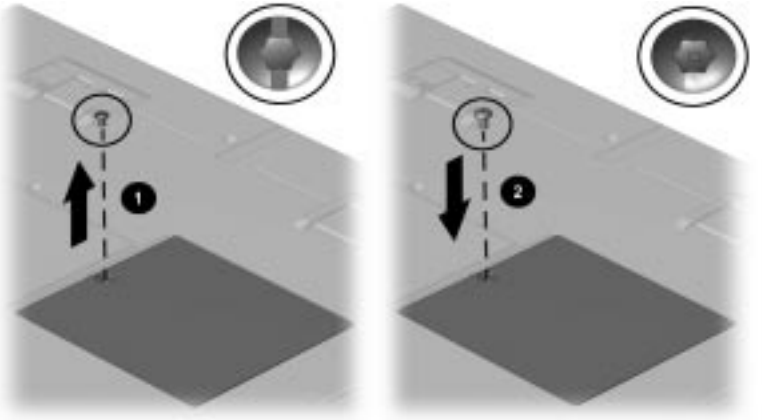
  To enable or disable a device or function from within Windows NT 4.0, select Start→Settings→Control Panel→System→Devices.
- **To enable or disable a device in Computer Setup**—

  1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
     - To change the language, press **F2.**
     - For navigation instructions, press **F1.**
  2. Select Security→Device Security, enter your preferences, then press **F10.**

     NOTE: Settings for a DVD-ROM drive can be entered in the CD-ROM field.
  3. To save your preferences, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter.**
  4. When prompted to confirm your action, press **F10.**

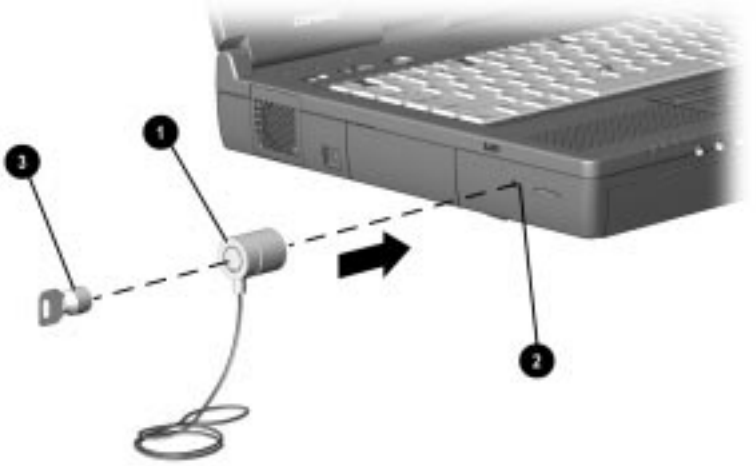
Securing the Memory Expansion Compartment

1. Place the computer on a flat surface, bottom side up.
2. Replace a standard Torx T-8 screw ❶ securing the memory expansion cover with one of the two Torx T-10 memory security screws ❷ included with the computer.



Connecting an Optional Cable Lock

Loop the cable around a secure object, then insert the cable lock ❶ into the security cable slot ❷ and lock it with the cable lock key ❸.

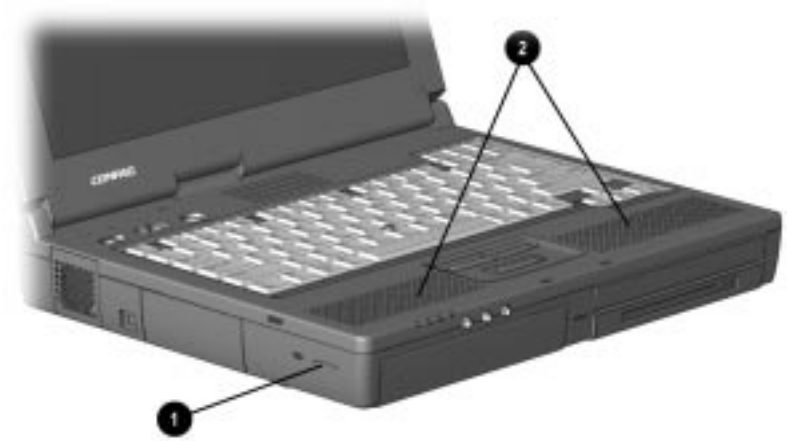


chapter 8

USING AUDIO AND VIDEO FEATURES

Using the Internal Microphone and Stereo Speakers

- The microphone ❶ supports audio input when the display is open or closed and has a standard sensitivity of -50 dB.
- The two stereo speakers ❷ provide audio playback for multimedia applications. When the computer is docked in an optional expansion base, these speakers are disabled and system sound plays through the expansion base speakers.



Connecting an External Audio Device

CAUTION: To prevent possible damage to an external device, do not plug a single-sound channel (monaural) connector into the stereo speaker/headphone jack or the stereo line-in jack.

Selecting an Audio Connector

To Connect This Device	Use This Jack
Single sound channel microphone	❶ Microphone jack
Tape deck, tuner, or CD player	❷ Stereo line-in jack
Stereo speakers, headphones, headset, or audio/visual device such as a television or VCR	❸ Stereo speaker/headphone jack

Connecting a Device to the Microphone Jack

The microphone jack supports a single sound channel (monaural) microphone with a 3.5-mm plug. A powered, single sound channel, electret condenser microphone is recommended.

- A stereo microphone records left-channel sound on both channels.
- A dynamic microphone does not achieve the recommended sensitivity.

When an external microphone is connected to the computer, the computer microphone is disabled.

Connecting a Device to the Stereo Speaker/Headphone Jack

WARNING: To reduce the risk of personal injury, adjust the volume before putting on headphones or a headset.

- Use only a 3.5-mm stereo plug. For best sound quality,
  - Headphones should be 32 ohms.
  - External speakers should be at least 8 ohms.
- Connecting an external audio device to the stereo speaker/ headphone jack disables the computer stereo speakers.

Connecting a Device to the Stereo Line-In Jack

The stereo line-in jack is the input line for an external stereo player such as a CD player, stereo tuner, or tape deck.

The input device must have a 3.5-mm stereo plug and must supply line input levels of 0.5 to 4.25 volts. The line output of most stereo players meets this specification.

Connecting an External Video Device

- **The video-out jack can support**—
  - Any device, such as a television, VCR, camcorder, overhead projector, or video capture card, that accepts video-in through a standard S-video (Super-video) or composite video connector.
  - Video signals only. If you are setting up a configuration that combines audio and video functions, such as playing a DVD movie to a television, connect the device audio to the stereo/speaker headphone jack.
- **The computer can support**—One S-video device and/or one composite video device connected to the video-out jack while simultaneously supporting an image on the computer display and on any other supported external displays.

Using the Video-Out Adapter

To transmit video signals through the video-out jack, you need

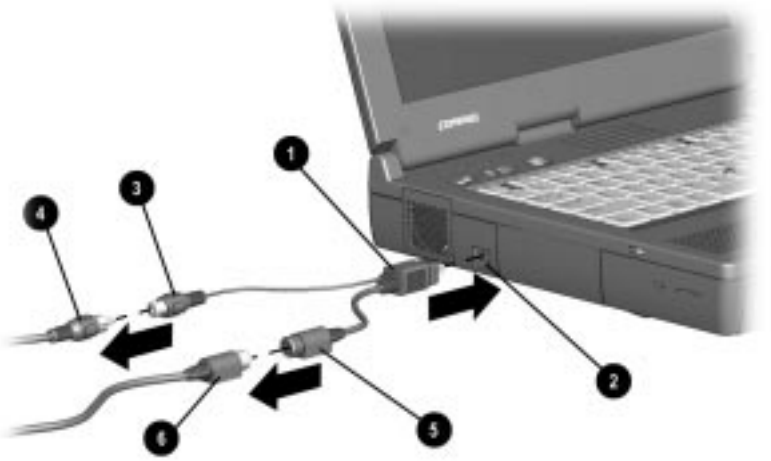
- The video-out adapter included with the computer

  and

- A standard S-video cable or a standard composite video cable available from most television, VCR, or electronics retailers.

To connect a video device to the video-out jack:

1. Plug the video-out adapter ❶ into the video-out jack ❷ on the computer.
2. Connect the adapter to the S-video or the composite cable.
   - **If you are connecting an S-video cable,** connect the adapter S-video connector ❸ to either connector on the S-video cable ❹.
   - **If you are connecting a composite video cable,** connect the adapter composite video connector ❺ to either end of the composite cable ❻.
3. Connect the S-video cable or the composite video cable to the video device as instructed in the device documentation.



Changing the Video Mode

NOTE: Color television standard modes vary even within regions. However, NTSC is common in North America; PAL, in Europe, Africa, and the Middle East; NTSC-J, in Japan; and PAL-M, in Brazil. Other South and Central American regions may use NTSC, PAL, or PAL-M.

To change the color television standard mode from NTSC (default):

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
   - To change the language, press **F2.**
   - For navigation instructions, press **F1.**
2. Select Advanced→Device Options, then press **Enter.**
3. Enter your preference, then press **F10.**
4. To save your preference, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter**.
5. When prompted to confirm your action, press **F10.**

Setting Video Preferences

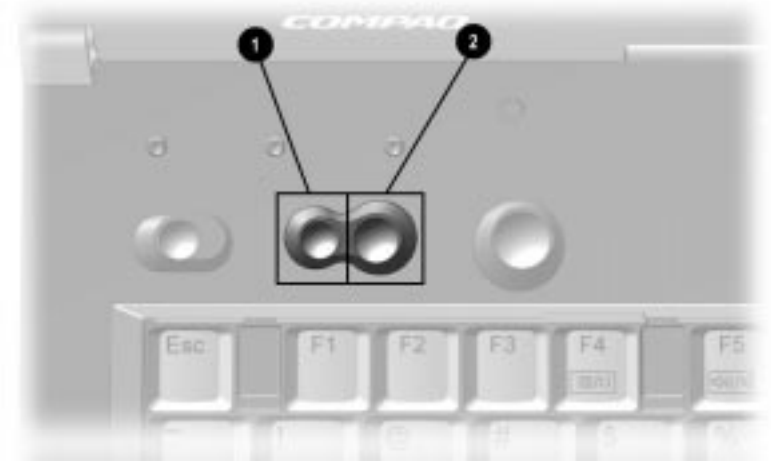
To access an online help file with instructions for setting video preferences

- **In Windows 95 and Windows NT 4.0**—Select Start→ Settings→Control Panel→Display Properties→ATI Displays tab→Help button.
- **In Windows 98**—Select Start→Settings→Control Panel→Display Properties→Settings tab→Advanced button→ATI Displays tab→Help button.

Adjusting Volume

Adjusting System Volume

- **Using volume buttons**—
  - To decrease volume, press the smaller ❶ button.
  - To increase volume, press the larger ❷ button.
  - To mute or restore volume, press both buttons simultaneously.



- **Using the Fn+F5 hotkeys**—
  - To raise or lower volume, press **Fn+F5,** then move the on-screen slide button or press a keyboard arrow key.
  - To mute or restore volume, press **Fn+F5+M** or press **Fn+F5,** then select or clear the Mute checkbox.
- **Using the Windows Volume Control window**—
  - Double-click the volume icon in the taskbar, then enter your preferences.
  - To activate the Windows Volume Control window while it is open but inactive, press the **Fn+F5** hotkeys.

NOTE: Volume can also be adjusted within some applications.

Setting Device Volume

To set a playback or recording volume, select Start→ Settings→Control Panel→MultiMedia→Audio tab.

chapter 9

USING AN INTERNAL MODEM

Connecting the Modem Cable

The internal modem must be connected to a standard (analog) telephone line. Immediately disconnect an accidental connection to a digital line, such as an office PBX line.

1. Plug either end of the modem cable ❶ into the RJ-11 jack on the computer.

   NOTE: Only internal modem models include a modem cable and an RJ-11 jack.

2. If you are connecting the cable to a telephone jack that is not an RJ-11 jack, plug the country-specific modem adapter included with the computer into the telephone jack ❷.
3. Plug the other end of the modem cable into the country-specific modem adapter or into the RJ-11 telephone jack ❸.

Selecting Communication Software

You can operate the modem with preinstalled or optional software. To use preinstalled modem software, select Start→Programs. Then,

- **In Windows 95** select Accessories→Fax→Compose New Fax.
- **In Windows 98 or Windows NT 4.0** select RingCentral Fax.

Configuring the Modem

The settings you may be required to enter vary among communication software applications. As you enter these settings, the following information may be helpful.

Modem Model

- **If the computer is a network model**—The modem model is Compaq Global Mini PCI 10/100 LAN + 56k (V.90) Modem by 3Com.

  NOTE: A network computer model has an RJ-45 jack, includes a network cable, and can be connected to a Local Area Network.

- **If the computer is not a network model**—The modem model is Compaq Global Mini PCI 56k (V.90) Modem by 3Com.

To confirm that your modem is set up, select Start→Settings→Control Panel→Modem.

- If the modem is set up, your modem model displays on the General tab.
- If the modem is not set up, the Install New Modem setup wizard displays. To set up your modem with this wizard:
  1. On the first screen, select Other, then select Next.
  2. On the second screen, select your modem or select Next to prompt your operating system to detect the modem.

Other Recommended Settings

- **Modem initialization string**—**AT&F.**

  NOTE: Newer initialization strings may be available from the Compaq Internet site at http://www.compaq.com.

- **COM port settings**—Refer to Appendix D.

- **Fax class**—Select 1.
- **Parity**—Select NONE.
- **Word length**—Select 8.
- **Stop bits**—Select 1.
- **Hardware flow control**—Select RTS/CTS.
- **Speed**—Select the highest transmission speed or baud rate.
  - The maximum connection speed is determined by the speed of the slowest modem on the connection. The internal modem negotiates the fastest speed possible with the remote modem.
  - The internal modem supports
    - — Standard analog modem communication protocols (for speeds up to 33.6 Kbps).
    - — ITU-compatible x2 V.90 and 56K protocols (for higher speeds).
  - The V.90 protocols allow faster downloads only from V.90 or x2-compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56Kbps, and will vary with line conditions.

Using Modem Commands and Dial Modifiers

You can configure most communication software without the use of AT commands or dial modifiers.

- If you prefer to configure the modem using AT commands, select Start→Programs→Accessories→HyperTerminal.
- To access an AT command set including dial modifiers and instructions
  - Select Start→Compaq Information Center→*Modem Commands* or
  - Go to the Compaq Internet site at http://www.compaq.com.

Setting Modem Preferences

The following preference is in addition to those described in your modem communication software documentation.

In Windows 95 only—To set the computer to turn on when the modem receives a telephone call, select Start→Settings→Control Panel→Power→Power tab→Advanced button, then select the checkbox for Wake Up the Computer When the Phone Rings.

Reinstalling Modem Software

All software for the internal modem and the WorldPort country configuration utility is preinstalled.

If it becomes necessary to reinstall this software, instructions (in readme.txt files) are in the desktop Programs folder and installation files are on the hard drive.

NOTE: Although alternate procedures are provided to enable you to reinstall modem software under the widest possible range of conditions, Compaq recommends that you use the Setup.exe procedures whenever possible.

- **If the computer is a network model**—
  - To access instructions for reinstalling modem and WorldPort software, select Start→Programs→Compaq Drivers Information→Compaq MiniPCI 10 100 Lan 56K (V.90) Modem.
  - To access drivers for the internal modem, select C:\Program Files\Compaq\CPQLANMODEMBY3COM.
  - To access installation files for WorldPort software, select C:\Program Files\Compaq\WorldPort.
- **If the computer is not a network model**—
  - To access instructions for reinstalling modem and WorldPort software, select Start→Programs→Compaq Drivers Information→Compaq Global MiniPCI 56K (V.90) Modem.
  - To access drivers for the internal modem, select C:\Program Files\Compaq\CPQMODEMBY3COM.
  - To access installation files for WorldPort software, select C:\Program Files\Compaq\WorldPort.

Using the Modem

The internal modem

- Does support all operations described in most communication software documentation.
- Does not support the modem pass-through connection available on some optional docking bases.

If you are using a fax application, the following supplementary information may be helpful:

- **Fax speed**—Fax communication software enables the modem to send and receive faxes at 14,400 bps.
- **Installing and loading fax communication software**—
  - Install no more than one fax application at one time in the computer. If more than one fax application is installed, conflicts may occur because all fax applications use similar files.
  - When some fax applications are loaded, their fax drivers may disrupt other modem functions. The disruption may persist even after you have closed the fax application. If you experience problems with the modem after having loaded your fax application, refer to the fax application documentation for information about unloading the driver.
- **Sending a Fax**—
  - Opening the fax application loads the application fax driver and prepares the modem to send the fax.
  - If you prepare the fax in another application, you may need to select your fax driver from within the print setup menu of that application.
- **Receiving a Fax**—For the modem to receive a fax, a fax driver must be loaded and the fax application must be open.
  - If you have enabled auto receive within your fax application, opening the application loads the fax driver and prepares the modem to receive a fax.
  - If you are using a Windows fax application, you can receive a fax while using another application by opening, then minimizing, the Windows fax application.

Using the Modem While Traveling Internationally

Using a Country-Specific Modem Adapter

- Telephone jacks vary by country.
  - The modem cable included with the computer plugs directly into an RJ-11 telephone jack.
  - To plug the modem cable into a different type of telephone jack, you must use a country-specific modem cable adapter.
  - To obtain the country-specific adapter(s) required for your itinerary, refer to Appendix A to contact a Compaq-authorized dealer, reseller or service provider.
- To connect the modem using a country-specific modem adapter:
  1. Plug either end of the modem cable included with the computer into the RJ-11 jack on the computer ❶.
  2. Plug the country-specific modem adapter into the telephone jack ❷.
  3. Plug the modem cable into the country-specific modem adapter ❸.

Selecting a Country-Specific Modem Configuration

To configure the modem for use in a specific country, select Start→Programs→Compaq Modem→WorldPort, then select the country.

Travel Connection Checklist

If you experience connection problems while using the modem outside your home country, the following suggestions may help.

- **Check the telephone line type**—The modem requires an analog, not a digital, telephone line. An analog line may be described as a data line, fax machine line, modem line, or standard telephone line.
- **Check for pulse or tone dialing**—Dial a few digits on the telephone and listen for clicks (pulses) or tones. Then make sure your communication software is set to the corresponding dialing mode (pulse or tone).
- **Check the telephone number you are dialing and the response of the remote modem**—Dial the telephone number on the telephone, wait for the remote modem to answer, then hang up.
- **Set the modem to ignore dial tones**—If the modem receives a dial tone it does not recognize, it will not dial and will display a No Dial Tone error message. To set the modem to ignore all dial tones before dialing:

  1. Select Start→Settings→Control Panel→Modems.
  2. Select your modem, then select Properties→Connections tab, then clear the checkbox for Wait for Dial Tone Before Dialing.

  NOTE: If you continue to receive the No Dial Tone error message after clearing the checkbox, select Start→Programs→Compaq Modem→WorldPort. Select USA, then again clear the checkbox for Wait for Dial Tone Before Dialing.

chapter 10

CONNECTING TO A LOCAL AREA NETWORK (LAN)

A network computer model

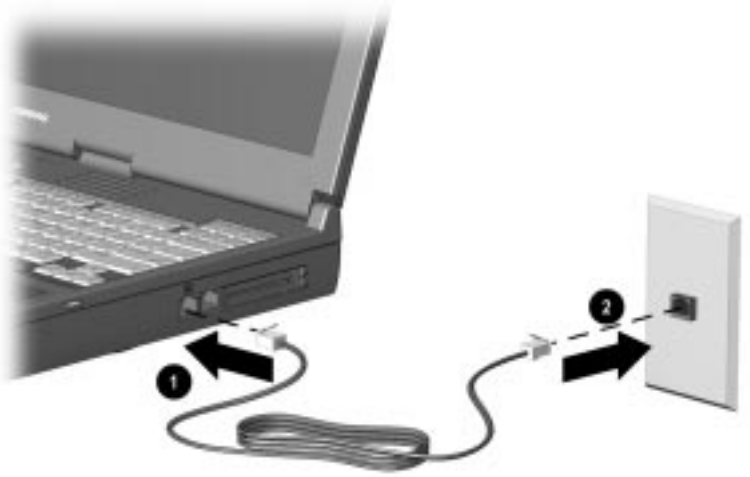
- Has an RJ-45 jack on the right side and includes a network cable.
- Supports network speeds up to
  - 10 Mbps when connected to a 10BaseTX network.
  - 100 Mbps when connected to a 100BaseTX network.
- Can be connected to a LAN whether or not the internal modem is connected to a telephone line.

IMPORTANT: Consult with your information services department before loading a network driver or changing a network setting.

Connecting the Network Cable

WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a telephone cable into the RJ-45 jack.

1. Plug either end of the network cable into the RJ-45 jack ❶.
2. Plug the other end of the cable to the Ethernet network jack ❷.



Turning a LAN Connection On and Off

- To conserve power, you can turn a LAN connection off and on as you work.

  To turn off a LAN connection—

  1. Log off the network.
  2. Select Start→Settings→Control Panel→Network→ Property→Advanced tab, then select Disable the LAN Card.

  To turn on a LAN connection—

  1. Select Start→Settings→Control Panel→Network→ Property→Advanced tab, then select Enable the LAN Card.
  2. Log on to the network.

- If the computer power source changes from external power to battery power while the computer is connected to a network, the LAN-On Battery Alert popup window prompts you to turn off the network card.
  - To conserve battery power by turning off the network connection, select Yes.

    NOTE: After you have selected Yes, you must reconnect the computer to external power before you can restore the network connection.
  - To retain the network connection, select No.

Accessing the Network at Startup

The fastest way to go directly to the network during startup is to press **F12** when the "Network Service Boot" message appears very briefly in the lower-right corner of the screen.

To set the computer to start up from a network card, refer to "Changing the Startup Sequence with MultiBoot" in Chapter 6.

Reinstalling LAN Drivers

LAN drivers are preinstalled.

If it becomes necessary to reinstall these drivers, instructions (in readme.txt files) are in the desktop Programs folder and installation files are on the hard drive.

- **To access instructions for reinstalling LAN drivers,** select Start→Programs→Compaq Drivers Information→Compaq MiniPCI 10 100 Lan 56K (V.90) Modem.

  NOTE: Although alternate procedures are provided to enable you to reinstall the LAN drivers under the widest possible range of conditions, Compaq recommends that you use the Setup.exe procedures whenever possible.
- **To access LAN drivers**—Select C:\Program Files\Compaq\CPQLANMODEMBY3COM.

chapter 11

USING PC CARDS

A PC Card is a credit card–sized accessory designed to conform to the standard specifications of the Personal Computer Memory Card International Association (PCMCIA). The computer supports both 32-bit (CardBus) and 16-bit PC Cards.

Selecting a PC Card Slot

PC Cards are classified as Type I, Type II, and Type III. The three types are about the same length and width, but vary in thickness. Type III cards are the thickest, at less than one-half inch (10.5 mm).

The computer has two PC Card slots. These slots are *not* identical.

- Type I and Type II PC Cards are supported in the top and bottom PC Card slots singly or in any combination.
- A Type III PC Card is supported only in the *bottom* PC Card slot and prevents the insertion of a PC Card into the top slot.

NOTE: Windows NT 4.0 does not support zoomed video PC Cards.

Configuring a PC Card

CAUTION: If you install card and socket services or enablers provided by a PC Card manufacturer, you may not be able to use other PC Cards. If you are instructed by PC Card documentation to install device drivers

- Install only the device drivers for your operating system.
- Do not install card services, socket services, or enablers.

- **In Windows 95 or Windows 98** the operating system configures plug and play PC Cards.
- **In Windows NT 4.0 with Award Software CardWare provided by Compaq** you can configure a PC Card in the CardWare window:
  - First, insert the PC Card.
  - Then, open the CardWare window by selecting Start→ Programs→CardWare.
  - For additional instructions, refer to the Help program within CardWare.

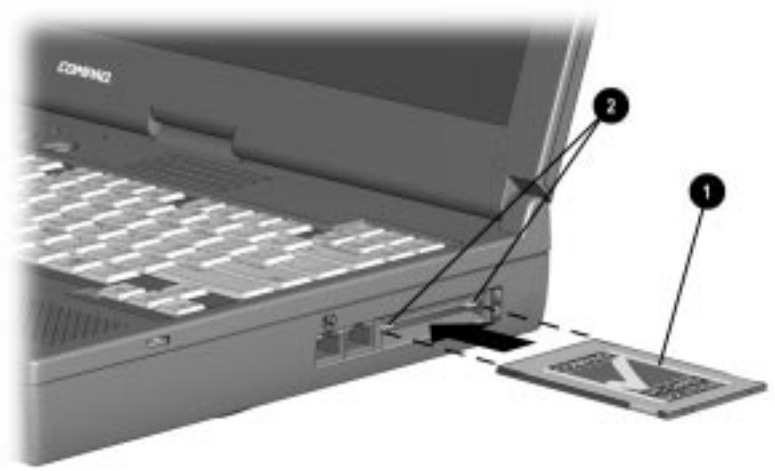
Inserting or Removing a PC Card

- **In Windows 95 or Windows 98—**
  - If you insert a PC Card while the computer is on, the computer beeps twice when the card is ready to use.
  - If you remove a PC Card while the computer is on, the computer beeps twice when the card is removed.
  - When a PC Card is in the system (in the computer or in an optional docking base while the computer is docked), the PC Card icon displays in the taskbar.
- **In Windows NT 4.0 with CardWare provided by Compaq—**
  - If you insert a PC Card while the computer is on, the computer beeps three times when the card is recognized.
  - If you remove a PC Card while the computer is on, the computer beeps three times when the card is removed.
  - The PC Card icon displays in the taskbar whether or not a PC Card is in the system.

Inserting a PC Card

CAUTION: To prevent damage to the connectors, use minimal pressure as you insert a PC Card into a PC Card slot.

1. With the connector facing the computer and the label facing up, push the PC Card ❶ through the PC Card doors, aligning the card on the two guide rails ❷ within the PC Card slot.
2. Gently push the card into the slot until the card is seated ❸.
3. **In Windows NT 4.0 with CardWare provided by Compaq**—Restart the computer if you are instructed to do so by the PC Card documentation or an on-screen prompt.
   - If you are inserting a LAN, SCSI, or multifunction PC Card, you must restart the computer.
   - If you are inserting a modem, ATA, flash, or SRAM PC Card, it is usually not necessary to restart the computer.



Removing a PC Card

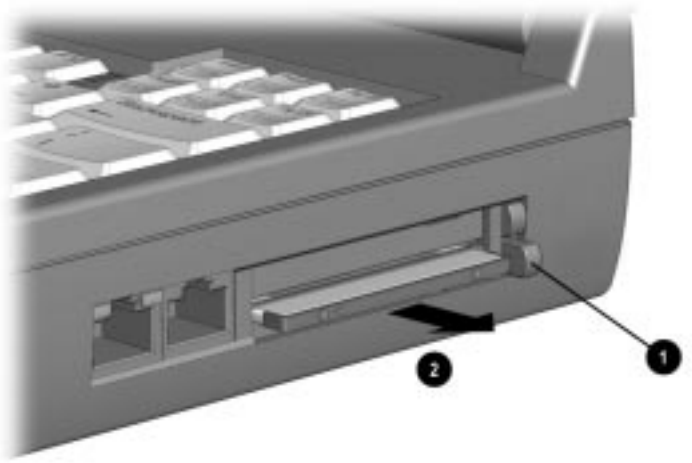
- First, prepare the system for the PC Card removal:

> **CAUTION:** If the computer is on and running Windows 95 or Windows 98, failure to stop a PC Card before removing it may result in loss of work or a system lockup.

  - **In Windows 95 or Windows 98**—If the computer is on, stop the PC Card before you remove it. To stop a PC Card, select the PC Card icon in the taskbar, then select the PC Card you want to stop, then select Stop Card. A message displays when the PC Card can be safely removed.
  - **In Windows NT 4.0 with CardWare provided by Compaq**—If the computer is on, you must shut it down before removing some PC Cards. Refer to the PC Card documentation for removal requirements.

    NOTE: You must shut down the computer before removing a LAN, SCSI, or multifunction PC Card. It is usually not necessary to shut down the computer before removing a modem, ATA, flash, or SRAM PC Card.

- Second, remove the PC Card:
  1. Push the PC Card eject button ❶ that corresponds to the slot containing the PC Card.
  2. Gently grasp the card and pull it out ❷.



chapter 12

USING INFRARED COMMUNICATION

Communicating with Infrared

- If the computer is running Windows 98 or a preinstalled Windows 95 operating system, the computer is IrDA-compliant (4Mbps standard) and can communicate with another infrared-equipped device that is also IrDA-compliant.
- Infrared communication
  - Occurs through the infrared port illustrated below.
  - Is not supported by Windows NT 4.0 without optional software that is not available from Compaq.

NOTE: The infrared port supports both low speed connections up to 115 kilobits per second (Kbps) and high speed connections up to 4 megabits per second (Mbps). Infrared performance may vary depending on performance of infrared peripherals, distance between infrared devices, and applications used.

Configuring the Infrared Port

As you set up your infrared software, the following information may be helpful.

- The infrared port default settings are: Port, COM3; address, 3; Interrupt Request (IRQ), 3.
- If you use Direct Cable Connection and the utility prompts you to choose a port for the infrared connection, you can select Serial Cable on COM4 or, if the computer is running a preinstalled Windows 95 or Windows 98 operating system, you can select Parallel Cable on LPT3.

Enabling the Infrared Port

In Windows 95—The infrared port must be enabled each time the computer is turned on or restarted. To enable the infrared port, select Start→Settings→Control Panel→Infrared.

In Windows 98—The infrared port is enabled by default each time the computer starts up.

In both Windows 95 and Windows 98—When the infrared port is enabled, the infrared icon appears on the taskbar and Infrared Monitor search is enabled by default.

- While the Infrared Monitor search is enabled
  - You can establish an infrared link.
  - The system cannot initiate Suspend (Standby). User-initiated Suspend (Standby) is not affected.
- When the Infrared Monitor search is disabled
  - Power is conserved.
  - You cannot establish an infrared link.
  - The system can initiate Suspend (Standby).
- To enable or disable Infrared Monitor search
  1. Open the Infrared Monitor dialog box by selecting the Infrared icon in the taskbar→Options tab.
     - To enable Infrared Monitor search, select the checkbox for Search For and Provide Status for Devices in Range.
     - To disable Infrared Monitor search, clear the checkbox.
  2. Select OK to save your preference and close the Options dialog box.

chapter 13

EXPANDING MEMORY

Managing Random Access Memory (RAM)

- To view the amount of RAM in the system, select Start→ Settings→Control Panel→Compaq Diagnostics.
- You can increase RAM with optional memory expansion boards or PC Cards. For ordering information, go to the Compaq Internet site at http://www.compaq.com, or refer to Appendix A to contact a Compaq authorized dealer, reseller, or service provider.
- When RAM increases, the hard drive space reserved for the hibernation file also increases. Windows 98 manages this increase. If the computer is running Windows 95 or Windows NT 4.0 and you experience problems with Hibernation after increasing RAM, verify that your hard drive has enough free space for the larger hibernation file.
  - To view the amount of space required by the hibernation file, select Start→Settings→Control Panel→power icon→ Hibernation tab.
  - To view the amount of free space on your hard drive, select My Computer→right-click your hard drive→Properties.

Inserting or Removing a Memory Expansion Board

Removing the Memory Expansion Compartment Cover

WARNING: The memory compartment is the only user-accessible internal compartment on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.

WARNING: Failure to unplug the power cord and remove the battery pack before installing a memory expansion board can damage the equipment and expose you to the risk of electrical shock.

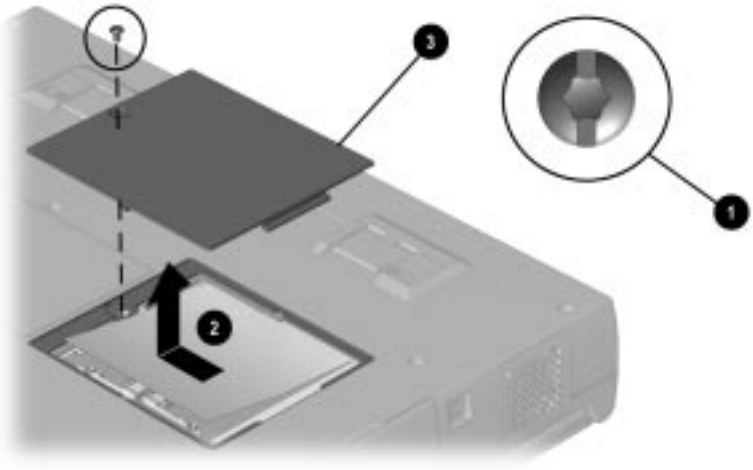
CAUTION: Electrostatic discharge (ESD) can damage electronic components. Before beginning this procedure, ensure that you are properly grounded. For more information, refer to Appendix C, "Electrostatic Discharge."

1. Shut down the computer.

   NOTE: If you are unsure whether the computer is off or in Hibernation, turn the computer on by sliding the power switch, then shut it down

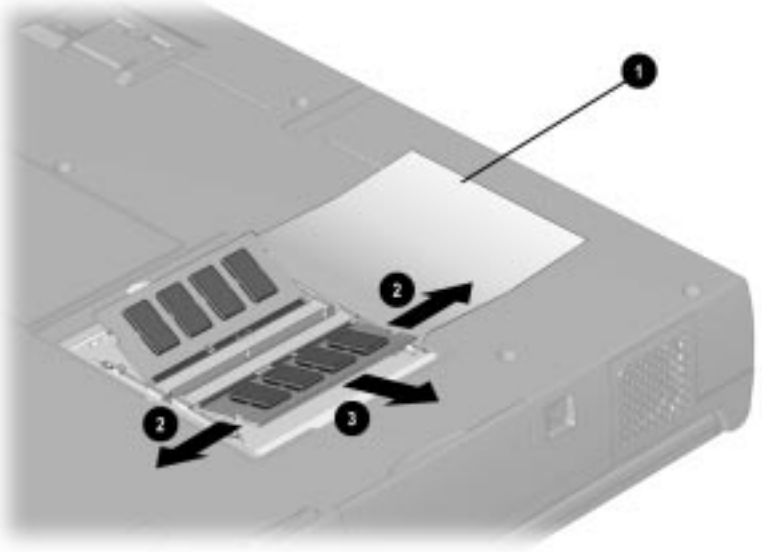
2. Disconnect all external devices connected to the computer.
3. Disconnect the power cord.
4. Remove all battery packs from the computer.
5. Turn the computer bottom side up on a flat surface with the front panel facing you.

6. Remove the screw ❶ attaching the memory expansion compartment cover to the computer.
   - **If the computer shipped with a preinstalled memory expansion board—**
     - The memory expansion compartment cover is attached with a tamper-resistant Torx T-10 memory security screw.
     - Use the Torx T-10 screwdriver included with the computer to remove and reinsert this screw.
   - **If the computer shipped with an empty memory expansion compartment—**
     - The memory expansion compartment cover is attached with a standard Torx T-8 screw, as shown below.
     - Use a standard Torx T-8 screwdriver to remove and reinsert this screw.
7. Slide left, then lift and remove ❷ the memory expansion compartment cover ❸.



Removing a Memory Expansion Board

1. Turn back the memory insulator ❶.
2. Pull away the plastic retention clips on each side of the memory expansion board that you want to remove ❷. The memory expansion board tilts upward.
3. Lift the edge of the memory expansion board and slide it gently out of the memory expansion slot at a 45-degree angle ❸.
4. Place the removed memory expansion board in an electrostatic-safe container.

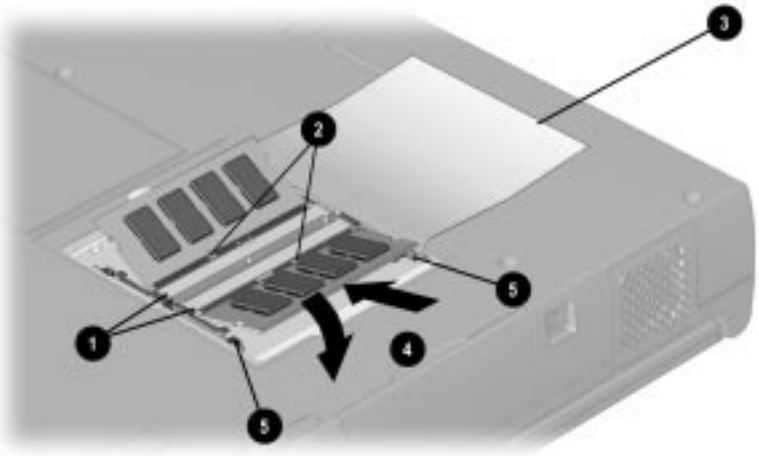


Inserting a Memory Expansion Board

Memory expansion boards supported by the computer

- Can be used in either of the 2 memory expansion slots ❶.
- Are keyed (notched) ❷ to ensure correct positioning.

1. Turn back the memory insulator ❸.
2. Insert the memory expansion board into an empty memory expansion slot at a 45-degree angle ❹, then slide it gently into place until it is seated (while still tilted).
3. Push the memory expansion board down until the plastic retention clips ❺ snap into place.



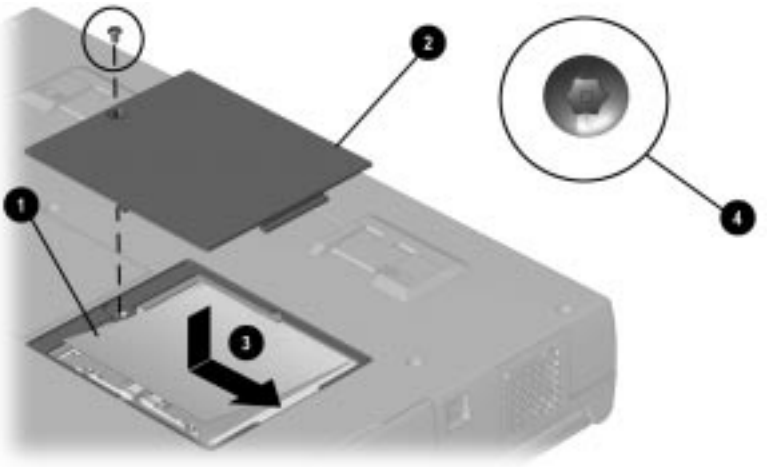
Replacing the Memory Expansion Compartment Cover

1. Lay the memory insulator ❶ over the memory expansion slots, ensuring that all edges of the memory insulator are tucked inside the memory expansion compartment.
2. Replace the memory expansion compartment cover ❷ by placing it flush left over the memory expansion compartment, then sliding the memory expansion compartment cover right until it is seated ❸.
3. Replace the screw ❹ that attaches the memory expansion compartment cover to the computer. You can use
   - One of the tamper-resistant Torx T-10 memory security screws included with the computer, as shown below,

     or

   - A standard Torx T-8 screw.

   NOTE: If you use the Torx T-10 memory security screw, you can also use the Torx T-10 screwdriver included with the computer.



chapter 14

INTELLIGENT MANAGEABILITY

Finding Intelligent Manageability Help

Intelligent Manageability comprises software tools that can help you and/or your Information Services department track, troubleshoot, protect, and maintain the system.

Intelligent Manageability uses such tools as Insight Management Agents, Compaq Diagnostics, Computer Setup, and the Compaq Security utility in Control Panel to facilitate the following:

- **Asset Management**—Provides detailed configuration and diagnostic information.
- **Fault Management**—Prevents, predicts, and alerts to impending hardware problems.
- **Security Management**—Protects against unauthorized access to your work, system information, and components.
- **Configuration Management**—Provides the latest drivers, utilities, and other software. Web Agent, for example, enables you and your Information Services department to view computer configuration information using Web technology. To access this feature, select Start→Compaq Information Center→*Insight Web Management.*

To learn more about Insight Management Agents and access instructions for using them, select Start→Compaq Information Center→*Intelligent Manageability.*

Using Fault Management Alerts

Identifying a Fault Management Alert

The computer is preset to monitor certain hardware components. If problems are found, the following alerts may display.

- **Hard drive alert**—Warns up to 72 hours in advance of impending hard drive problems; can be set to initiate a software backup.
- **System temperature alert**—Prevents critical overheating. As the system temperature rises, this feature first adjusts fan and CPU (central processing unit) speed, then displays an alert, then shuts down the system if necessary.
- **Battery fault alert**—Reports battery pack failure.
- **Monitor alert**—Diagnoses and displays external monitor operational problems.
- **Memory alert**—Reports memory expansion board configuration changes when a memory expansion board is removed, added, or reconfigured. The report includes both the previous and current configurations.

Setting Fault Management Alert Preferences

All alerts can be displayed on the computer screen. When the computer is connected to the network, all alerts are also reported to the network console.

Alert preferences are set in the Alert Properties window.

- To access Alert Properties, select the Intelligent Manageability icon on the taskbar.
- For Help, select the Help button in Alert Properties.
- For information about setting alerts in a networked environment, select Start→Compaq Information Center→ *Intelligent Manageability,* then search for Configuring Compaq Insight Management Agents.

chapter 15

CONFIGURATION AND DIAGNOSTIC UTILITIES

Selecting Computer Setup or Compaq Diagnostics

- The computer features two system management utilities.
  - **Computer Setup** is a system information and configuration utility that can be used even when your operating system is not working or will not load. It includes custom settings that are not available in Windows.
  - **Compaq Diagnostics** is a system information and diagnostic utility that is used within your Windows operating system.
- **To test system components**—Use Compaq Diagnostics.
- **To display system information**—Use Compaq Diagnostics whenever possible.
- **To configure a device**—
  - **In Windows 95 or Windows 98** use Compaq Diagnostics to troubleshoot the configuration of a device that is not configured by the operating system.

    NOTE: It is not necessary to configure a device connected to a USB connector on the computer or an optional docking base.
  - **In Windows NT 4.0** use Computer Setup.

Using Computer Setup

Information and settings in Computer Setup are accessed from the File, Security, or Advanced menus.

1. Turn on or restart the computer. When the blinking cursor appears upper-right on the screen, press **F10.**
   - To change the language, press **F2.**
   - To view navigation information, press **F1.**
   - To return to the Computer Setup menu from anywhere in Computer Setup, press **Esc.**
2. Select the File, Security, or Advanced menu.
3. To close Computer Setup and restart the computer
   - Select File→Save Changes and Exit, then press **Enter.**

   or
   - Select File→Ignore Changes and Exit, then press **Enter.**
4. When you are prompted to confirm your action, press **F10.**

Selecting from the File Menu

Select	To Do This
System information	■ View identification information about the computer, a docking base, and battery packs. ■ View specification information about the processor, memory and cache size, and system ROM.
Save to floppy	Save system configuration to a formatted 720K or larger diskette.
Restore from floppy	Restore system configuration from a diskette.
Restore defaults	Replace configuration settings in Computer Setup with factory default settings. (Identification information is retained.)
Ignore changes and exit	Cancel changes entered during the current Computer Setup session, then exit and restart the computer.
Save changes and exit	Save changes entered during the current Computer Setup session, then exit and restart the computer.

Selecting from the Security Menu

NOTE: For more information about passwords, password options, DriveLock, and disabling devices, refer to Chapter 7.

Select	To Do This
Setup password	Enter, change, or delete a setup password.
Power-On password	Enter, change, or delete a power-on password.
DriveLock passwords	Enable/disable DriveLock; change a DriveLock User or Master password.
Password options **NOTE:** Password options can be selected only when a power-on password is set.	Enable/disable ■ QuickLock. ■ QuickLock on Suspend. ■ QuickBlank. ■ Lock keyboard and mouse at power-on. **NOTE:** To enable QuickLock on Suspend or QuickBlank, you must first enable QuickLock.
Device security	Enable/disable ■ Ports or diskette drives. ■ Diskette write. ■ CD-ROM or diskette startup. **NOTE:** Settings for a DVD-ROM can be entered in the CD-ROM field.
System IDs	Enter identification numbers for the computer, a docking base, and battery packs.

Selecting from the Advanced Menu

Select	To Do This
Language (or press **F2**)	Change the Computer Setup language.
Boot Options	Enable/disable ■ QuickBoot, which starts the computer more quickly by eliminating some startup tests. (If you suspect a memory failure and want to test memory automatically during startup, disable QuickBoot.) ■ MultiBoot, which enables you to set a startup sequence that can include most bootable devices and media in the system. For instructions, refer to "Changing the Startup Sequence with MultiBoot" in Chapter 6.
Device Options	■ Enable/disable the embedded numeric keypad at startup. ■ Enable/disable multiple standard pointing devices at startup. (To set the computer to support only a single, usually non-standard, pointing device at startup, select Disable.) ■ Enable/disable USB legacy support for a USB keyboard. (When USB legacy support is enabled, the keyboard will work even when a Windows operating system is not loaded) ■ Set an optional external monitor or overhead projector connected to a video card in a docking base as the primary device. (When the computer display is set as secondary, the computer must be shut down before undocking.) ■ Set video-out mode to NTSC (default), PAL, NTSC-J, or PAL-M.* ■ Change the parallel port mode from EPP (default) to standard, bidirectional, EPP, or ECP.

*Video modes vary even within regions. However, NTSC is common in North America; PAL, in Europe, Africa, and the Middle East; NTSC-J, in Japan; and PAL-M, in Brazil. Other South and Central American regions may use NTSC, PAL, or PAL-M.

Using Compaq Diagnostics

- When you access Compaq Diagnostics, a scan of all system components appears on the screen before the Compaq Diagnostics window for your operating system opens.
- You can display more or less information from anywhere within Compaq Diagnostics by selecting Level on the menu bar.
- Compaq Diagnostics is designed to test Compaq components. If non-Compaq components are tested, the results may be inconclusive.

Displaying System Information

1. Access Compaq Diagnostics by selecting Start→ Settings→Control Panel→Compaq Diagnostics.
2. Select Categories, then select a category from the drop-down list.
   - To save the information, select File→Save As.
   - To print the information, select File→Print.
3. To close Compaq Diagnostics, select File→Exit.

Running a Diagnostic Test

1. Access Compaq Diagnostics by selecting Start→ Settings→Control Panel→Compaq Diagnostics.
2. Select the Test tab.
3. In the scroll box, select the category or device you want to test.

4. Select a test type.
   - **Quick Test**—Runs a quick, general test on each device in a selected category.
   - **Complete Test**—Performs maximum testing on each device in a selected category.
   - **Custom Test**—Performs maximum testing on a selected device.
     - To run all tests for your selected device, select the Check All button.
     - To run only the tests you select, select the Uncheck All button, then select the checkbox for each test you want to run.
5. Select a test mode.
   - **Interactive Mode**—Provides maximum control over the testing process. You determine whether the test was passed or failed and may be prompted to insert or remove devices.
   - **Unattended Mode**—Does not display prompts. If errors are found, they are displayed when testing is complete.
6. Select the Begin Testing button.
7. Access the test information. To view test information, select a report.
   - **Status tab**—Summary of the tests run, passed, and failed during the current testing session.
   - **Log tab**—Lists tests run on the computer, the numbers of times each test has run, the number of errors found on each test, and the total run time of each test.
   - **Error tab**—Lists all errors found on the computer with their error codes.
8. To save
   - **Test information**—Select the Save button on the Log tab.
   - **Error reports**—Select the Save button on the Error tab.
9. To close Compaq Diagnostics, select File→Exit.

chapter 16

MAINTENANCE, SHIPPING, AND TRAVEL

Updating the System

Obtaining Customized Update Information with Info Messenger

You can set up a customized search of the Compaq Internet site for new information about the software, firmware, and hardware in your system by registering with Compaq Info Messenger.

- To access Compaq Info Messenger, go to the Compaq Internet site at http://www.compaq.com, then select Info Messenger.
- To register, follow the instructions on the Info Messenger page. When your registration is complete, you can
  - Run your customized search whenever you prefer from the Info Messenger page.
  - Set Info Messenger to send you the information by email as it becomes available.

Obtaining Software Updates and Enhancements by Subscription

You can subscribe to the *Compaq Support Software CD* that contains the latest device drivers, system ROMs, and utilities, as well as detailed software support information and instructions. For ordering, cost, and language information, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized dealer, reseller, or service provider. Ordering information is also available at the Compaq Internet site at http://www.compaq.com.

Obtaining Software Updates from the Compaq Internet Site

You can obtain all Compaq system software and firmware, with download and installation instructions, from the Compaq Internet site at http://www.compaq.com.

NOTE: Most software on this site is packaged in a compressed file called a *SoftPaq*. A compressed file containing a system read only memory (ROM) is called a *ROMPaq*.

Updating the System ROM

- Compaq recommends that you
  - Install each system ROM update for your computer model as it becomes available.
  - Confer with your Information Services department before updating your system ROM if your system is connected to a network.
- Updating your system ROM will not affect your system software settings.

Displaying the Version of the Installed System ROM

- Press **Fn+Esc.** The number beside System BIOS is the version number of your system ROM.
- If you are unable to display the ROM version number with **Fn+Esc,** you may be able to display it in Computer Setup:
  1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.
  2. To change the language, press **F2.**
  3. To view the version number of the installed system ROM, select File→System Information.
  4. To close Computer Setup and restart the computer, select File→Save Changes and Exit or File→Ignore Changes and Exit.

Obtaining a System ROM

You can obtain the latest system ROM for the computer at no charge by mail or from the Internet.

- To order a system ROM, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized dealer, reseller, or service provider.

- To download a system ROM from the Compaq Internet site:
  1. Obtain a formatted 1.44-megabyte diskette.
  2. Go to the Downloadables area at http://www.compaq.com.
  3. Find the system ROMPaq for your computer model.
  4. Follow the instructions on (or linked to) the ROMPaq download page to download the ROMPaq and copy it onto the diskette.
  5. Remove the diskette from the diskette drive.

Installing a System ROM from a Diskette

1. Shut down the computer.
2. Insert a diskette drive into the bottom MultiBay.
3. Connect the computer to an electrical outlet with the power cord or an optional DC cable.

CAUTION: The system ROM will not install properly if the computer is docked or running on battery power. During the installation, do not shut down or unplug the computer.

4. Insert the diskette containing the system ROM into the diskette drive.
5. Turn on the computer, then follow the on-screen instructions.
6. When the installation is complete, remove the diskette, then shut down the computer.

Reinstalling Software

The Quick Restore package included with the computer contains the software preinstalled in the computer and instructions for restoring it.

CAUTION: To prevent file corruption and ensure that the correct drivers install:

- Before you begin to reinstall system software, ensure that
  - The computer is plugged into an electrical outlet with the power cord or an optional DC cable.
  - The computer is not docked in a docking base.
- During the restoration
  - Do not shut down or unplug the computer.
  - Do not remove or insert a drive.

Caring for the Computer

WARNING: To reduce the risk of electric shock or damage to internal components, do not allow liquids to drip into the computer keyboard.

CAUTION: To prevent possible damage to the display, do not place anything on top of the computer when it is closed.

CAUTION: Soap or other cleaning products can damage the screen and discolor the plastic.

- Keep the computer away from excessive moisture and temperature extremes. Do not expose the computer to liquids or precipitation.
- Avoid exposing the computer to direct sunlight or strong ultraviolet light for extended periods of time.
- If the computer will not be used for a week or more, shut down the computer.
- If the computer will be disconnected from an external power source for more than 2 weeks:
  - Shut down the computer.
  - Remove all battery packs and store them in a cool, dry place.
- As needed, clean the screen and exposed computer surfaces with a soft cloth moistened only with water. Do not spray liquids directly on the computer.

Preparing the Computer for Shipping or Travel

1. Back up your work.
2. Remove all CD-ROMs, DVD-ROMs, diskettes, or PC Cards.
3. Shut down the computer.
4. If the computer will be disconnected from external power source for more than 2 weeks, remove all battery packs and store them in a cool, dry place.
5. Turn off, then disconnect all external devices.
6. If you are shipping the computer, place it in the original packing box or similar protective packaging, then label the package “Fragile: Handle With Care.”

Traveling with the Computer

- Take along a backup of your work. Do not pack the backup with the computer.
- Hand carry the computer. Do not check it with your luggage.
- Do not expose the computer or diskettes to a magnetic security detector.
  - The security device that examines carry-ons placed on a conveyer belt uses x-rays and is safe for the computer and diskettes.
  - The walk-through security device and the handheld security wands are magnetic and may damage the computer or diskettes.
- If you plan to use the computer during a flight, check in advance with the airline: in-flight computer use is at the discretion of the airline.
- If you expect to encounter climatic extremes, review the Operating Environment guidelines in Appendix D.
- If you are traveling internationally:

WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

  - Consult with a Compaq authorized dealer, reseller, or service provider about power cord and adapter requirements for each location in which you plan to use the computer. (Voltage, frequency, and plug configurations vary.) To contact a Compaq authorized dealer, reseller, or service provider near you, refer to "Worldwide Telephone Numbers" in Appendix A
  - If you plan to use an internal modem, review "Using the Modem While Traveling Internationally" in Chapter 9.
  - Check the computer-related Customs regulations for each country on your itinerary.

chapter 17

TROUBLESHOOTING

Problems that occur while using the computer may originate in the computer, the operating system, a software application, or an optional docking base or external device.

- For problems that may not originate in the computer, refer to your operating system, docking base, software application, or external device documentation.
- For problems that may originate in the computer or system software, refer in this chapter
  - First, to the "Quick Solutions Checklist."
  - Then, to the troubleshooting tables.
- If the problem persists, refer to
  - Chapter 15, for information about checking configurations and running diagnostic tests.
  - Appendix A, for information about using the Compaq Support Forum or contacting a Compaq authorized dealer, reseller, or service provider.

  IMPORTANT: If you take the computer to a Compaq authorized dealer, reseller, or service provider for service, provide all necessary passwords.

Quick Solutions Checklist

NOTE: To reset a locked system, press and hold the suspend button while sliding the power switch.

- Is adequate power available to the computer?
  - If the computer is connected to an electrical outlet
    - — Are all power cord, external AC Adapter, or optional DC cable connections secure?
    - — Is the electrical outlet providing a standard power supply?
  - If the computer is running on a battery pack, is the battery pack in the computer fully charged?
- Is the system turned on?
- Is the computer positioned to allow adequate airflow around the fan and vents?
- Is the **latest available** system ROM installed?

  NOTE: For instructions, refer to "Updating the System ROM" in Chapter 16.
- If the problem relates to an external device
  - Is the device securely connected to the appropriate connector?
  - Is the device receiving reliable electrical power?
  - Is the device turned on?
  - Are all necessary device drivers installed and loaded?

Solving Audio Problems

Solving Audio Problems

Problem	Possible Cause	Solution
System warnings or alerts are not audible.	Volume is muted.	To increase volume, press the larger volume button.
	The system warning or alert is disabled.	To enable low battery and critical low battery warnings, refer to "Setting Power Preferences" in Chapter 5.
		To enable Intelligent Manageability fault management alerts, refer to "Using Fault Management Alerts" in Chapter 14.
Internal speakers produce no sound.	Volume is muted or turned down.	Press the **Fn+F5** hotkeys, then adjust the volume.
		Adjust the volume in MultiMedia or in the software application.
	External speakers, headphones, or a headset is connected to the computer.	Use the external speakers, headphones, or headset.
		To use the internal speakers, disconnect the external speakers, headphones, or headset.
External speakers, headphones, or a headset produces no sound.	Volume is muted or turned down.	Press the **Fn+F5** hotkeys, then adjust the volume.
		Adjust the volume in MultiMedia or in the software application.
	Sound source is not selected in MultiMedia.	Select the sound source in MultiMedia.
External microphone does not work.	The recording source is not selected in MultiMedia.	Select the recording source in MultiMedia.
	The recording level volume needs adjusting.	Adjust the recording level volume in MultiMedia.

Solving Battery Problems

Solving Battery Problems

Problem	Possible Cause	Solution
Computer beeps* 5 times and the battery light is blinking.	Battery charge is low, and the computer has entered a low-battery condition.	■ Connect the computer to external power.** or ■ Replace the battery pack with a fully charged battery pack. or ■ Shut down the computer or press **Fn** + the suspend button to initiate Hibernation.
System beeps* twice and initiates Hibernation.	Computer has entered a critical low-battery condition while Hibernation is enabled.	Connect the system to external power** or insert a fully charged battery pack, then slide the power switch to restore from Hibernation.
System beeps* twice and the power/suspend light is blinking.	Computer has entered a critical low-battery condition while Hibernation is disabled.	To prevent loss of unsaved work, immediately connect the system to external power** or insert a fully charged battery pack.
Low-battery warnings or alerts are not audible.	Volume is muted or turned down.	Press the **Fn+F5** hotkeys, then adjust the volume.
	The warning or alert is disabled.	To enable low battery and critical low battery warnings, refer to "Setting Power Preferences" in Chapter 5.
		To enable Intelligent Manageability fault management alerts, refer to "Using Fault Management Alerts" in Chapter 14.

*In Windows 98 the term *alarm* replaces the term *beep*.

**External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.

Continued

Solving Battery Problems *Continued*

Problem	Possible Cause	Solution
Battery pack is warm after charging.	Warming occurs during charging.	No action is required.
Computer shut down and work in memory was lost when a battery pack that was the only power source available to the system was replaced.	Suspend (Standby) was not initiated before removing the discharged battery pack.	Restore power,** then turn on the computer with the power switch.
	A fully charged battery pack was not inserted within 5 minutes after removing the discharged battery pack.	
	The auxiliary (nickel metal hydride) battery charge is low because the computer was not connected to a power source for an extended time period.	Restore power,** then turn on the computer with the power switch. To charge the auxiliary battery, connect the computer to external power** for approximately 24 hours.
	The auxiliary battery has reached the end of its useful life.	Restore power,** then turn on the computer with the power switch. Contact your Compaq authorized service provider to replace the auxiliary battery.
Date and time must be reset each time the computer is turned on.	The backup (lithium coin cell) battery that backs up the real-time clock has reached the end of its useful life.	Restore power,** then turn on the computer with the power switch. Contact your Compaq authorized service provider to replace the real-time clock backup battery.

*In Windows 98 the term *alarm* replaces the term *beep*.

**External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.

Continued

Solving Battery Problems *Continued*

Problem	Possible Cause	Solution
Computer does not beep 3 times when battery pack is inserted or removed.	The computer is off, in Suspend (Standby), or in Hibernation.	The computer beeps to indicate a successful insertion or removal only when the computer is on.
	The battery pack was incorrectly inserted.	Review the instructions in Chapter 4, then reinsert the battery pack.
Battery light does not turn on to indicate that battery pack is charging; battery pack does not charge.	The battery pack has reached the end of its useful life.	Replace the battery pack.
	Battery pack was exposed to temperature extremes.	Allow time for the battery pack to reach room temperature.
	Battery pack is already fully charged.	No action is necessary.
Battery charge does not last as long as expected.	Battery conservation settings, practices, and procedures are not being used.	Refer to "Conserving Battery Power" in Chapter 5.
	Battery pack has partially self-discharged.	Refer to "Storing a Battery Pack" in Chapter 4.
	Battery pack is being exposed to temperature extremes.	Keep battery pack within the recommended operating or storage temperature ranges. Refer to Appendix D for operating ranges or to "Storing a Battery Pack" in Chapter 4 for storage ranges.
Battery charge displays do not accurately report the charge remaining in a battery pack.	The battery pack requires recalibration.	Refer to "Calibrating a Battery Pack" in Chapter 5.
	The battery pack has reached the end of its useful life.	Replace the battery pack.

*In Windows 98 the term *alarm* replaces the term *beep*.

**External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.

Solving Drive Problems

Solving Hard Drive Problems

Solving Hard Drive Problems

Problem	Possible Cause	Solution
System does not recognize a hard drive.	The drive is not seated properly.	Remove, then reinsert the drive.
	The drive is damaged.	To verify that the problem is with the drive, try using the hard drive in another bay.
		Run scandisk on the drive.
	The drive was inserted while the system was on or in Suspend (Standby) or in Hibernation.	Shut down the computer before inserting or removing a hard drive.
System cannot start up from a hard drive.	The drive does not have the necessary files to start up and operate the computer.	Start up from the hard drive supplied with the computer or install startup software on the additional drive.
	The system can access, but not start from, a hard drive in an expansion base.	Insert the drive into the computer.
Hard drive cannot be accessed.	DriveLock protection is enabled on the drive.	Enter DriveLock User or Master password or remove DriveLock protection from the drive. For instructions, refer to "Using DriveLock" in Chapter 7.
DriveLock settings cannot be accessed in Computer Setup.	The DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.	Turn the computer off, then on, then press **F10** when the blinking cursor appears upper-right on the screen.

Solving CD-ROM Drive and DVD-ROM Drive Problems

Problem	Possible Cause	Solution
System does not recognize a CD-ROM drive or DVD-ROM drive.	The drive is not seated properly.	Remove, then reinsert the drive.
	System software does not support the drive.	Install drivers and/or a system ROM upgrade as instructed in the drive documentation.
	The drive is damaged.	To verify that the problem is with the drive, try using another drive in the same bay.
	The computer is running a retail version of Windows 95, Windows 98, or Windows NT 4.0, and the drive was inserted while the system was on or in Suspend (Standby) or Hibernation.	1. Shut down the computer. 2. Reinsert the drive. 3. Turn on the computer. **NOTE:** For information about software that will enable you to insert or remove these drives without first shutting down the computer, refer to "Preparing to Insert or Remove a MultiBay Drive" in Chapter 6.
Computer does not beep 3 times when CD-ROM or DVD-ROM drive is inserted, but drive is recognized.	The computer is off, in Suspend (Standby), or in Hibernation.	The computer beeps to indicate a successful insertion or removal only when the computer is on.
CD-ROM drive or DVD-ROM drive cannot read a CD-ROM or DVD-ROM.	The CD-ROM or DVD-ROM is upside down.	Turn over the CD-ROM or DVD-ROM.

Continued

Solving CD-ROM Drive and DVD-ROM Drive Problems *Continued*

Problem	Possible Cause	Solution
System cannot start up from a CD-ROM.	A bootable CD-ROM is not in the CD-ROM drive.	Verify that a CD-ROM with the necessary system files is in the drive.
	CD-ROM boot ability is disabled.	Enable CD-ROM boot ability. For instructions, refer to "Disabling a Device" in Chapter 7.
	The system can access, but not start from, a CD-ROM drive or DVD-ROM drive in an expansion base.	Insert the drive into the computer.
System does not initiate Suspend (Standby) or Hibernation while a CD-ROM or DVD-ROM is in the system.	If the computer is running Windows 95 or Windows NT 4.0, the system cannot initiate Suspend (Standby) or Hibernation while auto insert notification is turned on.	Turn off auto insert notification. **In Windows 98 or Windows 95** select Start→Settings→Control Panel→System→Device Manager→CD-ROM Properties, then clear the CD-ROM Auto Insert Notification checkbox. **In Windows NT 4.0** select Start→Settings→Control Panel→Power→Battery Conservation Settings tab, then clear the CD-ROM Auto Insert Notification checkbox.

Solving Diskette and SuperDisk LS-120 Drive Problems

Solving Diskette and SuperDisk LS-120 Drive Problems

Problem	Possible Cause	Solution
System does not recognize a diskette or SuperDisk LS-120 drive.	The drive is not seated properly.	Remove, then reinsert the drive.
	The drive may be damaged.	To verify that the problem is with the drive, try using another removable drive in the same bay.

Continued

Solving Diskette and SuperDisk LS-120 Drive Problems *Continued*

Problem	Possible Cause	Solution
System does not recognize a diskette or SuperDisk LS-120 drive *(continued)*.	The computer is running a retail version of Windows 95, Windows 98, or Windows NT 4.0, and the drive was inserted while the system was on, in Suspend (Standby), or in Hibernation.	1. Shut down the computer. 2. Reinsert the drive. 3. Turn on the computer. **NOTE:** For information about software that will enable you to insert or remove these drives without first shutting down the computer, refer to "Preparing to Insert or Remove a MultiBay Drive" in Chapter 6.
Computer does not beep 3 times when diskette or SuperDisk LS-120 drive is inserted, but drive is recognized.	The computer is off, in Suspend (Standby), or in Hibernation.	The computer beeps to indicate a successful insertion or removal only when the computer is on.
Diskette drive or SuperDisk LS-120 drive cannot read or write to a diskette.	Diskette is not compatible with the drive.	Refer to your drive documentation for information about compatible diskettes.
	Diskette is not formatted.	Format the diskette.
	Diskette drive is disabled.	Refer to "Disabling a Device" in Chapter 7.
	Diskette is write-protected.	Disable the write-protection or use another diskette that is not write-protected.
System cannot start up from a diskette drive.	A bootable diskette is not in the drive.	Verify that a diskette with the necessary system files is in the drive.
	Diskette boot ability is disabled.	Refer to "Disabling a Device" in Chapter 7.
	The system can access, but not start from, a SuperDisk LS-120 drive in an expansion base.	Insert the drive into the computer.

Solving Infrared Problems

Solving Infrared Problems

Problem	Possible Cause	Solution
Cannot link with another infrared-equipped computer or device.	Computer is running Windows NT 4.0.	Windows NT 4.0 does not support infrared communication.
	Appropriate software is not running on both devices.	Install the appropriate software on the second device and start the program on both devices.
	Infrared port on computer is disabled.	To enable the infrared port, Select Start→Settings→ Control Panel→Infrared.
	Infrared Monitor search is disabled.	To enable Infrared Monitor search: 1. Select the Infrared icon in the taskbar→Options tab. 2. Select the Search For and Provide Status for Devices in Range checkbox.
	Target device is not IrDA-compliant.	Check documentation of target device and make recommended changes.
	Interrupt request (IRQ) conflict.	Check IRQ assignments for conflicts, then reassign if necessary. For IRQ port information, refer to ■ "Configuring the Infrared Port" in Chapter 12. ■ "Port and COM Port Settings" in Appendix D.
	Baud rate, # bits, stop byte, or parity conflict.	Select the same baud rate, # bits, stop byte, and parity setting for both devices.*

*For instructions, refer to your infrared communications software documentation.

Continued

Solving Infrared Problems *Continued*

Problem	Possible Cause	Solution
Cannot link with another infrared-equipped computer or device *(continued).*	A physical condition exists that affects the connection.	Refer to "Data transmission problem" in this table.
System does not initiate Suspend while infrared port is enabled.	The system cannot initiate Suspend while Infrared Monitor search is enabled.	To disable Infrared Monitor search, select Start→ Settings→Control Panel→ Infrared→Options tab, then remove the check from the Search for and Provide Status for Devices in Range checkbox.
Data transmission problem.	Direct sunlight, energy-saving fluorescent light, or flashing incandescent light is close to the infrared connections.	Remove the interfering light source(s). Move the infrared ports closer together. Select a slower fixed baud rate for both devices.*
	Interference from other infrared-equipped devices.	Keep infrared-equipped remote control units, such as wireless headphones, pointed away from the infrared connection.
	Dirty infrared lens.	Clean the lens with a lint-free cloth.
	Distance.	Move the infrared ports closer together. They should be no more than 3 feet (1 meter) apart.
	Movement.	Do not move either unit during data transmission.
	Orientation.	Adjust the infrared ports so that they point within 15 degrees of each other.
	Physical obstruction.	Remove any objects between the two infrared ports that could be interfering with the line-of-sight data transmission.

*For instructions, refer to your infrared communications software documentation.

Solving Keyboard and Pointing Device Problems

Solving Keyboard Problems

Problem	Possible Cause	Solution
Some keys type numbers instead of letters and num lock light is on.	The embedded numeric keypad is enabled.	Toggle **Fn+Num Lk** to disable the embedded numeric keypad.
Embedded numeric keypad does not work.	The embedded numeric keypad is not enabled.	Toggle **Fn+Num Lk** to enable the embedded numeric keypad.
Hotkeys do not work on external keyboard.	Hotkeys commands are implemented differently on an external keyboard.	To enter a hotkeys command on an external keyboard, rapidly press the **Scroll Lock** key twice, then immediately press the second key only of the hotkeys combination. **NOTE:** The **Fn+F6** hotkeys cannot be used on an external keyboard connected by USB.
Keyboard and pointing device are locked.	QuickLock is initiated.	To exit QuickLock, enter the power-on password.
External mouse does not work.	The external mouse is not Microsoft-compatible.	In Computer Setup, select Advanced→Device Options, then select the Disable Multiple Pointing Devices checkbox.
A keyboard connected through the USB connector does not work unless the operating system is loaded.	USB legacy support is disabled.	To enable USB legacy support in Computer Setup, select Advanced menu→Device Options, then enable USB legacy support.

Solving LAN Connection Problems

Solving LAN Connection Problems

Problem	Possible Cause	Solution
Cannot restore LAN connection after selecting Yes in the LAN-On Battery Alert popup window.	The computer is running on battery power.	Connect the computer to external power.
Connection speed seems slow, although computer is connected to a 100BaseTX network.	A 10/100 network switch or hub may be forced to 10 Mbps.	**In Windows 95 or Windows 98** select Start→Settings→Control Panel→Network→Advanced tab, then disable Auto Polarity. **In Windows NT 4.0** select Start→Settings→Control Panel→Network→Adapters tab, then disable Auto Polarity.

Solving Memory Problems

Solving Memory Problems

Problem	Possible Cause	Solution
Memory count during Power-On Self-Test (POST) is incorrect.	Memory expansion board is installed incorrectly.	Remove, then reinstall memory expansion board as instructed in Chapter 13.
Computer beeps* 4 times when turned on, power/suspend light is on, but screen is blank.	Memory expansion board is installed incorrectly.	Remove, then reinstall memory expansion board as instructed in Chapter 13.
	Memory expansion board or memory circuitry has failed.	Contact your Compaq authorized service provider.
Hibernation does not work normally after increasing RAM with a memory expansion board.	The hard drive does not have enough space for the larger hibernation file.	Refer to “Managing Random Access Memory (RAM)” in Chapter 13.

*In Windows 98 the term *alarm* replaces the term *beep.*

Solving Modem Problems

If you are troubleshooting a modem PC Card problem, refer also to "Solving PC Card Problems" in this chapter.

Solving Modem Problems

Problem	Possible Cause	Solution
Modem does not work.	Modem is connected through an optional docking base.	Connect the modem through the RJ-11 jack on the computer.
ERROR message.	Typing error.	If you are typing from the command line in terminal mode, verify, then retype the command.
EXCESSIVE LINE CURRENT SENSED. SEE OWNER'S MANUAL FOR DETAILS message.	Modem is connected to a digital line.	Connect the modem to a standard analog telephone line, then reestablish the connection.
No dial tone, with or without NO DIAL TONE message.	You are not in your home country and the modem does not recognize the local dial tone.	Refer to the "Travel Connection Checklist" in Chapter 9.
		At the command line in terminal mode, type **ATX3DT.**
	Telephone service is not connected to the telephone wall jack.	Connect a telephone to the wall jack. If you do not hear a dial tone, contact your telephone service provider.
	A shared telephone line is in use.	Make sure another telephone or modem is not using the telephone line.
	Modem is connected to a digital line, such as an office PBX line.	Connect the modem to a standard analog telephone line, then reestablish the connection.
	Speaker Control AT Command (ATM) is set to 0.	1. At the command line in terminal mode, type **ATM1,** then press **Enter.** 2. Type **ATH1** and listen for the sound of the dial tone.

Continued

Solving Modem Problems *Continued*

Problem	Possible Cause	Solution
No dial tone, with or without NO DIAL TONE message *(continued).*	The modem or modem COM port is disabled.	Refer to "Disabling a Device" in Chapter 7.
	The modem is not responding to commands from the computer keyboard.	1. At the command line in terminal mode, type **AT,** then press **Enter.** ■ If the modem displays OK, the modem and computer are working together. ■ If the modem displays ERROR, or does not respond, restart the computer and repeat steps 1 and 2. 2. Type **ATDT** and listen for a dial tone. 3. Press any key to hang up the modem.
Modem sounds are not audible.	Modem speaker is turned off.	At the command line in terminal mode, type **ATM1.**
	System sound is muted or turned down.	Press the **Fn+F5** hotkeys, then adjust the volume.
Modem does not dial correctly.	Call Waiting may be interfering.	Disable Call Waiting before dialing. ■ For information about disabling Call Waiting, consult your operating system documentation. ■ To obtain the disable call waiting code for your dialing area, consult your local telephone service provider.

Continued

Solving Modem Problems *Continued*

Problem	Possible Cause	Solution
Clicking sound, and modem does not connect.	The modem is connected to a digital line. **NOTE:** The EXCESS LINE CURRENT SENSED message does not display if the current is under 100 mA.	Connect the modem to a standard analog telephone line, then reestablish the connection.
Modem does not connect.	The error correction feature of your modem software is interfering.	Disable error correction (&K0) and data compression (&M0) using AT commands. **NOTE:** To access AT commands and instructions for using them, select Start→Compaq Information Center→*Modem Commands.*
Modem does not connect at highest speed.	Line conditions in your area or in the area you are calling may not support the highest connect speeds.	Have your telephone line checked by your local telephone service provider.
		Try dialing an alternate telephone number for the service you are using.
	Another device on your telephone line may be causing interference.	Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial.
	The telephone line does not support 56K implementation.	The 56K protocol requires that the telephone line contain no more than one analog-to-digital conversion. Try connecting from an alternate site.

Continued

Solving Modem Problems *Continued*

Problem	Possible Cause	Solution
Modem does not connect at highest speed *(continued).*	There is noise on the telephone line.	Use another telephone line.
	The 56K protocol of an internal modem will fall back to lower speeds if the telephone line is too noisy for a high-speed connection.	Change the Hang-up Delay S Register: At the command line in terminal mode, type **ATS10=150,** then press **Enter**. **NOTE:** This command causes the modem to take longer to disconnect even if there is no noise on the line.
Fax transmissions do not work.	Another communications software application is open.	Close the other communications application. Also, refer to "Installing and Loading Fax Communication Software" in Chapter 9.
	Modem is receiving inadequate power.	Connect the computer to external power or If the computer must run from a battery pack, ■ Make sure the battery pack is fully charged. ■ Clear all power conservation selections.
	The wrong printer driver is selected.	Verify that you have selected the correct printer driver.
Characters are garbled/transfer rates are slow.	There is noise in the telephone line.	Request a telephone line filter from your local telephone service provider.
	Settings on the sending and receiving modem do not match.	Use the same parity, modem speed, word length, and stop bits settings on both modems.

Continued

Solving Modem Problems *Continued*

Problem	Possible Cause	Solution
Characters are garbled/transfer rates are slow *(continued).*	The error correction feature of your modem software is interfering.	Disable error correction (&K0) and data compression (&M0) using AT commands. **NOTE:** To access AT commands and instructions for using them, select Start→Compaq Information Center→*Modem Commands.*
Modem loses connection.	Call Waiting may be interfering with the connection.	Disable Call Waiting before dialing. For information about disabling Call Waiting, consult your operating system documentation. To obtain the disable call waiting code for your dialing area, consult your local telephone service provider.
	Another device on your telephone line may be causing interference.	Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial.
	Hibernation was initiated; the computer reached a low-battery or critical low-battery condition.	1. Restore power, if necessary. 2. Slide the power switch to exit Hibernation, if necessary. 3. Restart the communications software application.
	Your service provider may have an inactivity timeout.	Ask your service provider if idle time on the line terminates the connection.

Solving PC Card Problems

Solving PC Card Problems

Problem	Possible Cause	Solution
Computer does not beep* when PC Card is inserted, but PC Card works.	Volume is muted.	To increase volume, press the larger volume button.
	PC Card sound effects have been disabled. **NOTE:** PC Card sound effects are enabled by default in Windows 95, Windows 98, and Windows NT 4.0 with CardWare from Compaq.	**In Windows 95 or Windows 98** refer to your operating system documentation. **In Windows NT 4.0 with CardWare from Compaq** select Start→Programs→ CardWare.
Computer does not beep* when PC Card is inserted, and PC Card does not work.	PC Card is upside down.	Remove the PC Card, then reinsert it with the label side up.
Computer beeps* once when PC Card is inserted, and PC Card does not work.	The PC Card is recognized, but not properly configured.	For configuration instructions, refer to Chapter 11 and to the PC Card documentation.
Computer beeps* twice when a storage PC Card is inserted, but the PC Card does not work.	You are trying to access a storage PC Card using the wrong drive letter.	Verify or change the drive letter assignment. For instructions, refer to your operating system documentation.
	The PC Card is not formatted.	To format a memory PC Card, run MCFORMAT in MS-DOS mode. To format an ATA PC Card, run ATAINIT, then run MCFORMAT in MS-DOS mode.

*In Window 98 the term *alarm* replaces the term *beep.*

Solving Power Problems

If the problem occurs while the computer is running on a battery pack, refer also to "Solving Battery Pack Problems."

Solving Power Problems

Problem	Possible Cause	Solution
Computer will not turn on when connected to external power if battery pack is in the computer.	Battery pack may be defective.	Remove or replace the battery pack.
Computer turned off while it was left unattended and power/suspend light is off.	System initiated a Hibernation timeout.	To restore from Hibernation, slide the power switch. To change a Hibernation timeout setting, refer to "Setting Power Preferences" in Chapter 5.
Computer turned off while it was left unattended and will not turn on.	System initiated Hibernation and/or shut down because of a critical low-battery condition.	1. To restore power, replace the battery pack with a charged battery pack or connect to an external power source.* 2. To restore from Hibernation, slide the power switch.
Computer unexpectedly initiated Suspend (Standby), or turned off when it was docked.	The maximum operating temperature was exceeded.	Move the computer to a cooler environment and allow it to return to a comfortable room temperature. Make sure the vents and exhaust fan are not obstructed.
Computer beeps twice when you press **Fn** + suspend button.	Hibernation is turned off.	To turn on Hibernation, select Start→Settings→Control Panel→power icon→ Hibernation tab, then select the On radio button.

*External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.

Continued

Solving Power Problems *Continued*

Problem	Possible Cause	Solution
System does not initiate Suspend.	The system cannot initiate Suspend while Infrared Monitor search is enabled.	To disable Infrared Monitor search, select the Infrared icon in the taskbar→Options tab, then clear the Search For and Provide Status for Devices in Range checkbox.
	The system cannot initiate Suspend (Standby) while a CD-ROM or DVD-ROM is in the system and auto insert notification is turned on.	Remove the CD-ROM or DVD-ROM.
		To turn off auto insert notification: **In Windows 95 or Windows 98** select Start→Settings→Control Panel→System→Device Manager→CD-ROM→ Properties. Then clear the CD-ROM Auto Insert Notification checkbox. **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→ Battery Conservation Settings tab. Then clear the CD-ROM Auto Insert Notification checkbox.

Solving Screen Problems

Solving Screen Problems

Problem	Possible Cause	Solution
Characters on computer display are dim.	Computer is in direct light.	Move the computer or tilt the display.
	Screen brightness is set low.	To access screen brightness adjustments, press the **Fn+F10** hotkeys. **NOTE:** For more information about setting screen brightness, refer to "Setting Power Preferences" in Chapter 5.
Screen is blank.	QuickBlank is enabled.	Enter the power-on password.
	Suspend (Standby) is initiated.	Press the suspend button.
	Hibernation is initiated.	Slide the power switch.
	Computer is off.	Slide the power switch.
Computer beeps* 4 times when turned on, power/suspend light is on, but screen is blank.	Memory expansion board is installed incorrectly.	Remove, then reinstall memory expansion board as instructed in Chapter 13.
	Memory expansion board or memory circuitry has failed.	Contact your Compaq authorized service provider.
Graphics accelerator does not work.	A graphics accelerator cannot be enabled while text stretch mode is set to Regular.	Press the **Fn+T** hotkeys to toggle the text stretching mode from Regular to Text Stretch.

*In Windows 98 the term *alarm* replaces the term *beep*.

Solving USB Problems

Solving USB Problems

Problem	Possible Cause	Solution
External device connected to the USB connector does not work.	The computer is running Windows NT 4.0.	When the computer is running Windows NT 4.0, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier.
External device connected to the USB connector does not work during startup (before Windows 95 or Windows 98 loads).	During startup, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier.	Use the external device only after Windows 95 or Windows 98 has loaded.
		Reduce the number of connected external USB devices to no more than two hubs on the first tier, and no more than one keyboard and one pointing device on the first or second tier.
A New Hardware Found message displays although the external device was previously recognized.	The device was previously connected to a USB connector on a docking base.	No action is required.
		Connect the external device to the same USB connector each time.
External devices in the sixth tier do not work.	Windows 95 and Windows 98 support up to five tiers.	Replace some hubs in the first five tiers with hubs containing additional sockets, then connect the devices in the sixth tier to the new hubs.
		Connect some external USB devices to other connectors.
External devices in lower tiers do not work.	An unpowered hub is connected to another unpowered hub.	Use only powered hubs.
		Make sure that all unpowered hubs are preceded by powered hubs in the USB chain.

appendix A

COMPAQ CUSTOMER SUPPORT

Using the Worldwide Web

Support services are available on the Internet through the Compaq Support Forum. You can either browse the postings as a guest, or register as a user and submit your own questions. Compaq responds to questions within one business day.

To access the Compaq Support Forum, go to the Compaq Internet site at http://www.compaq.com.

Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in Chapter 17 or the Compaq Support Forum, you may need to call technical support.

To receive the fastest possible solution, have the following information available when you call.

- The computer.
- Serial number and model description on the bottom of the computer.
- Purchase date on invoice.
- Conditions under which the problem occurred.
- Error messages that have displayed.
- Type of printer connected.
- Operating system version number and registration number.

  To view these numbers, select Start→Settings→ Control Panel→System→General tab.

- System ROM version number and Computer Setup version number. To view these version numbers,
  1. Turn on or restart the computer.
  2. When the blinking cursor appears upper-right on the screen, press **F10.**
  3. Select File→System Information.
- Printed or saved configuration and diagnostics information.

  To obtain, print, or save configuration and diagnostic information, refer to Chapter 15.

IMPORTANT: If you take the computer to a Compaq authorized dealer, reseller, or service provider for service, provide all necessary passwords.

Worldwide Telephone Numbers

Locate your country and the type of assistance that you need in the following table.

- Use the phone numbers for "Eastern Europe, Middle East, and Africa" for countries in those regions that are not listed individually.
- Before you call for technical assistance, refer to "Using the Worldwide Web" and "Preparing to Call Technical Support" earlier in this section.

NOTE: Telephone numbers are subject to change without notice.

Worldwide Telephone Numbers

Location	Country Code	Telephone Number
Argentina		
General Information	+54	1 704 3800
Technical Support	+54	38 1 704 00
Fax	+54	1 704 3809

*****Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Australia		
General Information	+61	2 9911 1999
Customer Support	+61	1 300 368 369
Technical Support	+61	2 9911 1955
FaxPaq/PaqFax	+61	2 9911 1982
Austria		
General Information	+43	1 7956 7700
Technical Support	+43	1 7956 7700
Fax	+43	1 7956 7999
Belgium		
General Information	+32	2/713 13 00
Technical Support*		0900 102 01 (6.05BEF/18s)
Fax	+32	2/713 14 44
QuickLine BBS	+32	2/716 95 92
Brazil		
General Information	+55	(11) 5188 4600
Canada		
General Information		1 905 707 1715
Product Information*		1 800 567 1616
Technical Support*		1 800 OKCOMPAQ (1 800 652 6672)
Customer Support*		1 800 263 5868
Order Software Backup*		1 800 952 7689
Battery Pack Recycling*		1 800 263 5868
Caribbean		
Technical Support		1 281 518 2200

*Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Chile		
General Information	+56	2 200 8100
Technical Support	+56	2 225 9490
China		
General Information	+86	10 6831 3399
Technical Support	+86	10 6834 6721
Customer Response Center	+86	10 6834 6738
BBS	+86	10 6834 6709
FaxPaq/PaqFax	+86	10 6834 6724
Verification Center	+86	10 6834 6739
Management Service Center	+86	10 6831 3399 ext. 5873
Colombia		
General Information	+57	1 312 0201
Technical Support	+57	1 523 1800
Czech Republic		
General Information	+420	2 22 187 111
Technical Support	+420	2 22 187 111
Denmark		
General Information	+45	45 90 45 90
Technical Support	+45	45 90 45 45
QuickLine BBS	+45	45 90 45 50
Eastern Europe, the Middle East, and Africa		
Technical Support and General Information	+353	1 402 6833
Fax	+353	1 402 6855
Ecuador		
General Information	+59	3 225 4343

*****Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Finland		
General Information	+358	0204 121
Technical Support*		0203 206 720
France		
General Information*		0803 804 805 (0,99 FTTC/mn)
Technical Support*		0803 813 823 (0,99 FTTC/mn)
QuickLine BBS (RTC Standard)	+33	0141 33 44 50
QuickLine BBS (RNIS)	+33	0141 33 42 25
Germany		
General Information*		0180/3 22 12 21 (0,24 DM/min.)
General Information Fax*		0180/3 22 12 20 (0,24 DM/min.)
All Products Fax*		0180/5 21 21 17 (0,48 DM/min.)
Portables Hotline*		0180/5 21 21 11 (0,48 DM/min.)
Greece		
General Information	+30	1 6141371
Fax	+30	1 6141370
Hong Kong		
General Information	+852	28681600
Technical Support	+852	90116633
FaxPaq/PaqFax	+852	28671648
Hungary		
General Information	+36	1 457 3650
Technical Support	+36	1 457 3680
Email		Info.hu@compaq.com

*Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
India		
General Information	+91	80 559 6023
FaxPaq/PaqFax	+91	80 559 8989
BBS	+91	80 559 8900
Ireland		
General Information*****		01800 409 454
Israel		
General Information	+972	3 6363 444
Fax	+972	3 639 6601
Technical Support	+353	1 402 6833
Italy		
General Information*****		0800-859-030
Technical Support	+39	2 69633281
QuickLine BBS	+39	2 89200222
Fax	+39	2 69633282
Japan		
General Information*		0120 101 589
Technical Support*		0120 101 589
Dial Q2 Technical Support		0990-505-589 (toll fee + 100 yen/min)
Ordering Software Backup*		0120 250 589
FaxStation	+81	-3-3389-9499
Korea		
Product Information	+82	
Technical Support	+82	
Customer Support*		

*****Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Luxembourg		
General Information	+352	49 13 02 (12,5FLUX/min)
Technical Support*		089 89 232
Fax	+352	49 14 40
QuickLine BBS	+32	2 716 95 92
Malaysia		
General Information	+60	3 754 1122
Customer Response Center	+60	3 754 1155
Mexico		
General Information	+52	5 229 7900
Technical Support	+52	5 262 7180
FaxPaq/PaqFax	+52	5 229 7920
Netherlands		
General Information	+31	182 565 805
Technical Support*		0900 1681616 (Dfl. 0.75/min)
Fax*		0900 8991116 (Dfl. 0.40/min)
New Zealand		
General Information	+64	9 307 3969
Technical Support	+64	9 379 4646
Customer Support Center	+64	9 379 7001
Norway		
General Information	+47	23 20 60 00
Technical Support	+47	22 07 20 20
Fax	+47	22 07 20 21
Peru		
General Information	+51	1 222 5012

*****Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Poland		
General Information	+48	22 630 3535
Technical Support	+48	22 630 3535
Portugal		
General Information	+351	1 412 8400
Technical Support	+351	1 412 8460
Technical Support	+351	1 412 8417
Fax	+351	1 412 0654
Russia		
General Information	+7	96 967 1700
Technical Support	+7	96 967 1700
Singapore		
General Information	+65	750 3030
Customer Service	+65	750 3030
FaxPaq/PaqFax	+65	750 4514
South Africa		
General Information	+27	11 356 4444
Technical Support	+27	11 356 4444
Fax	+27	11 483 3411
Spain		
General Information	+34	902 10 14 14
Technical Support	+34	902-20-24-00
Fax	+34	
Sweden		
General Information	+46	8 703 52 40
Technical Support*		0729 36 20 00 (75 SK per call)
Fax	+46	8 587-711 43

*****Indicates domestic numbers not available internationally.

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Switzerland		
InfoLine*		0844 844 111
Technical Support (German)	+41	01/838 22 22
Technical Support (French)	+41	01/838 22 23
Taiwan		
General Information	+886	-2-27351000
Technical Support	+886	-2-23761170
Thailand		
General Information	+66	2 679 6222
Turkey		
General Information	+90	(0216) 3102020
Fax	+90	(0216) 3918428
United Arab Emirates (Dubai)		
General Information	+97	14 818 100
United Kingdom		
General Information*		0845 270 4000
General Information	+44	141 270 4000
FaxPaq/PaqFax	+44	181 332 3550
QuickLine BBS	+44	181 332 9499
United States		
Product Information*		1 800 345 1518
Technical Support*		1 800 OKCOMPAQ (1 800 652 6672)
FaxPaq/PaqFax*		1 800 345 1518, Option 1
Download Facility* (modem access only)		1 281 518 1418
Ordering Software Backup*		1 800 952 7689
Battery Pack Recycling*		1 800 524 9859
Venezuela		
General Information	+58	2 953 0854
Technical Support	+58	2 953 9705

*****Indicates domestic numbers not available internationally.

appendix *B*

REGULATORY NOTICES

Throughout these regulatory notices, Compaq products are referred to by their regulatory agency series numbers.

Regulatory Agency Series Numbers

Regulatory agencies worldwide use agency series numbers for product identification. Each approved product displays the assigned agency series number. To ensure continued safe and reliable operation, the products listed below should be used only with the Compaq PP1000 agency series of computers.

Product	Agency Series Number
■ AC Adapter	PPP003, PPP003A, PPP003D, or PPP003L
■ ArmadaStation	PP1005
■ Armada MiniStation	PP1006
■ Aircraft Power Adapter	386504
■ Automobile Power Adapter/Charger	401043
■ Battery Charger	PP1003
■ Primary battery pack (8-cell, 17 mm)	PP1001A
■ MultiBay battery pack (6-prismatic cell, 12.7 mm)	PP1001C
■ Dual MultiBay battery pack (12-cell, 25 mm)	PP1001B

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Declaration of Conformity for Products Marked with the FCC Logo (United States only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions about your product, write to

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 530113
Houston TX 77269-2000

or call 1-800-OKCOMPAQ (1-800-652-6672)

For questions about this FCC declaration, write to

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 510101
Houston TX 77269-2000

or call 281-514-3333

To identify your product, refer to the part, series, or model number found on the product.

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

German Ergonomics Notice

The Compaq PP1000 agency series of computers meet the requirements of ZH 1/618 (German Safety Regulations for Display Work Places in the Office Sector) when used in conjunction with docking bases, keyboards, and monitors that bear the "GS" approval mark. The Compaq PP1000 agency series of computers in a stand-alone mode are not intended for continuous use in an office environment.

Airline Travel Notice

Use of electronic equipment aboard commercial aircraft is at the discretion of the airline.

Energy Star Compliance

The Compaq PP1000 agency series of computers are compliant with the U.S. Environmental Protection Agency (EPA) Energy Star Computers Program 2.0. The EPA Energy Star logo does not imply endorsement by the EPA. As an Energy Star Partner, Compaq Computer Corporation has determined the product meets the Energy Star guidelines for energy efficiency.

Power Cords

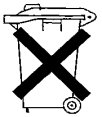
If you were not provided with a power cord for your computer or for an AC power accessory intended for use with your computer, you should purchase a power cord that is approved for use in your country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 0.75 mm^2/18AWG, and the length of the cord must be between 5 feet (1.5 m) and 6½ feet (2 m). If you have questions about the type of power cord to use, contact your Compaq authorized service provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

Battery Notice

WARNING: To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of battery packs or internal batteries in fire or water. An internal battery should be replaced only by a Compaq authorized dealer using the Compaq spare part for this computer.



In North America, dispose of battery packs or internal batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer preaddressed to a reclamation facility where the metals are recycled. Call the telephone number listed for your location in Appendix A for more information.

In Europe, do not dispose of battery packs or internal batteries with general household waste. Dispose of or recycle them by using the public collection system or returning them to Compaq, your authorized Compaq partners, or their agents.

Laser Safety

All Compaq systems equipped with laser products comply with appropriate safety standards, including IEC 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies for Class 1 laser products. It does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

WARNING: Use of controls or adjustments or performance of procedures other than those specified herein or in the laser product installation guide may result in hazardous radiation exposure.

This system is classified as a Class 1 laser product. This label appears on the laser product.

Laser Information

Laser Type:	Semiconductor GaAlAs
Wave Length:	780 ± 35 nm
Divergence Angle:	53.5° ± 1.5°
Output Power:	Less than 0.2mW or 10,869 $W \cdot m^{-2} sr^{-1}$
Polarization:	Circular
Numerical Aperture:	0.45 ± 0.04

Only authorized technicians trained by Compaq should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module level repair. Because of the complexity of the individual boards and sub-assemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.

European Union Notice

Products with the CE marking comply with Telecommunication Terminal Equipment and Satellite Earth Station Equipment (TTE & SES) Directive (98/13/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the European Community.

Compliance with these directives implies conformity to the following European Norms or Regulations (in brackets are the equivalent international standards and regulations):

- EN55022 (CISPR 22)—Electromagnetic Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4)—Electromagnetic Immunity
- EN60950 (IEC950)—Product Safety
- CTR21 (ETSI TBR21)—Attachment requirements for connection to the analogue PSTNs of terminal equipment

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

The equipment is designed to work with all EU telephone networks. However, the equipment may have interworking difficulties for some connections on the EU public networks. Dialling by loop disconnect pulses is not intended to be used on the PSTN. This feature is only supported in consideration of PBX or other equipment which requires pulse dialling.

Network compatibility is dependent on software switch settings which are set automatically by the country selection. The user should contact the equipment supplier in case of difficulty in network settings.

Safety Precautions for Modems

Always follow these basic safety precautions when using a modem or telephone that is *not* cordless.

WARNING: To reduce the risk of personal injury, electric shock, or fire:

- Never connect or use a modem or telephone during a lightning storm. There may be a remote risk of electric shock from lightning.
- Never connect or use a modem or telephone in a wet location.
- Never use a modem or telephone to report a gas leak in the vicinity of the leak.
- Always disconnect the modem cable before opening the equipment enclosure or touching an uninsulated modem cable, jack, or internal components.

U.S. Regulations Governing the Use of Modems

This equipment complies with Part 68 of the FCC rules. Located on the bottom of the computer is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. Upon request, you must provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most areas (but not all), the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your telephone line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

The REN for this device does not exceed 1.0.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

An FCC-compliant, 6-position (RJ11C), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68-compliant.

If you experience trouble with this telephone equipment, contact your local telephone company for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

For the Compaq Customer Support Center and your nearest Compaq Authorized reseller in North America, call 1-800-345-1518 or write:

Compaq Customer Support Center
P.O. Box 692000
Houston, Texas 77269-2000

Telephone Consumer Protection Act of 1991

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business, or entity, or individual sending the message and the telephone number of the sending machine or such business, or entity, or individual.

Canadian Regulations Governing the Use of Modems

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

An Industry Canada-compliant, 6-position (CA11A), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68 / Industry Canada-compliant.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or an electrician.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices, subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed **5**.

The Ringer Equivalence Number (REN) for this device does not exceed 1.0.

For the location of the authorized Canadian maintenance facility nearest you, call 1-800-OKCOMPAQ or contact:

Compaq Canada, Inc.
45 Vogell Road
Richmond Hill, Ontario L4B 3P6

New Zealand Modem Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.

This device is equipped with pulse dialling while the Telecom standard is DTMF tone dialling. There is no guarantee that Telecom lines will always continue to support pulse dialling.

Use of pulse dialling, when this equipment is connected to the same line as other equipment, may give rise to bell tinkle or noise and may also cause a false answer condition. Should such problems occur, the user should not contact the Telecom Faults Service.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's Specifications:

a) There shall be no more than 10 call attempts to the same number within any 30-minute period for any single manual call initiation, and

b) The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

Where automatic calls are made to different numbers, the equipment shall go on-hook for a period of not less than 5 seconds between the end of one attempt and the beginning of the attempt.

The equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing (S0 set between 2 and 10). This ensures:

a) A person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

b) Caller identification (which occurs between the first and second ring cadences) is not destroyed.

This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecom will accept no responsibility should difficulties arise in such circumstances.

This equipment should not be used under any circumstances which may constitute a nuisance to other Telecom customers.

This equipment shall not be set to make automatic calls to the Telecom '111' Emergency Service.

Macrovision Corporation Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

appendix C

ELECTROSTATIC DISCHARGE

A discharge of static electricity from fingers or other electrostatic conductors may damage electronic components. Before handling electrostatic-sensitive components, discharge static electricity by one of the methods described in this appendix.

Preventing Electrostatic Discharge

When Handling Drives

- Before handling a drive, discharge static electricity by touching the unpainted metal surface or lug nuts on the connectors on the back of the computer.
- Avoid touching connector pins on the computer, a drive, or a drive adapter.

When Installing Internal Components

- Keep components in their electrostatic-safe containers until you are ready to install them.
- Have everything needed for the installation within reach so that you do not have to leave the area after beginning installation.
- Use nonmagnetic tools.
- Before touching an electronic component, discharge static electricity by one of the grounding methods described later in this appendix. If you must leave the area during installation, remember to reground yourself before resuming installation.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- If you remove a component, place it in an electrostatic-safe container.

Grounding Methods

If installation instructions direct you to unplug the computer or an optional docking base, unplug it *after* being properly grounded and *before* removing the cover. Use one or more of the following grounding methods.

- Touch the unpainted metal surface or lug nuts on the connectors on the back of the computer or docking base. Avoid touching connector pins.
- Touch an exterior unpainted metal surface of equipment that is connected to an electrical outlet by a grounding plug.
- Use a wrist strap connected by a ground cord to the computer chassis. Wrist straps are flexible grounding straps with a minimum of 1 megohm ± 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.

NOTE: If you need more information about static electricity or assistance with product installation, contact your Compaq authorized dealer, reseller, or service provider.

appendix D

SPECIFICATIONS

Computer Dimensions

Dimension	U.S.	Metric
Height	2 in	5.08 cm
Width	12.6 in	32 cm
Depth	10.35 in	26.29 cm

Operating Environment

Factor	U.S.	Metric
Temperature		
Operating	50° to 95°F	10° to 35°C
Nonoperating	–4° to 140°F	–20° to 60°C
Relative humidity (noncondensing)		
Operating	10 to 90%	10 to 90%
Nonoperating	5 to 95%	5 to 95%
Maximum altitude (unpressurized)		
Operating	10,000 ft	3,048 m
Nonoperating	30,000 ft	9,144 m

Rated Input Power

Input Power	Rating
Operating voltage	100–120/220–240 VAC RMS
Operating current	1.2/0.6 A RMS
Operating frequency range	50–60 Hz AC
When powered by a DC source	18.5V MAX

NOTE: This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 Vrms.

Port and COM Port Settings

Port	Port	Address	IRQ	DMA
Serial port		3F8h - 3FFh	4	
USB connector		2400-241Fh	11	
Parallel port		378 - 3FFh	7	3
Serial I/O connector	COM1	3F8h - 3FFh	4	
Infrared port	COM3	3E8h - 3EFh	3	5
Internal modem				
Windows 95 or 98	COM2	2F8h - 2FFh	11	3
Windows NT 4.0	COM4	2F8h - 2FFh	11, 5, or 10	3

Modem Specifications

Temperatures		
Operating	32° to 167°F (0° to 75°C)	
Storage	–40° to 167°F (–40° to 75°C)	
Relative Humidity (noncondensing)		
Operating	–10 to 90% (–10 to 90%)	
Storage	–5 to 95%@102°F (–5 to 95%@ 39°C)	
Interfaces	Communications connector	Standard RJ-11 telephone connector
	Telephone, central office network	Internal DAA
Power Requirements	+3.3 volts +/–5%, +3.3 vaux +/–5%, +5 volts +/–5%	

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